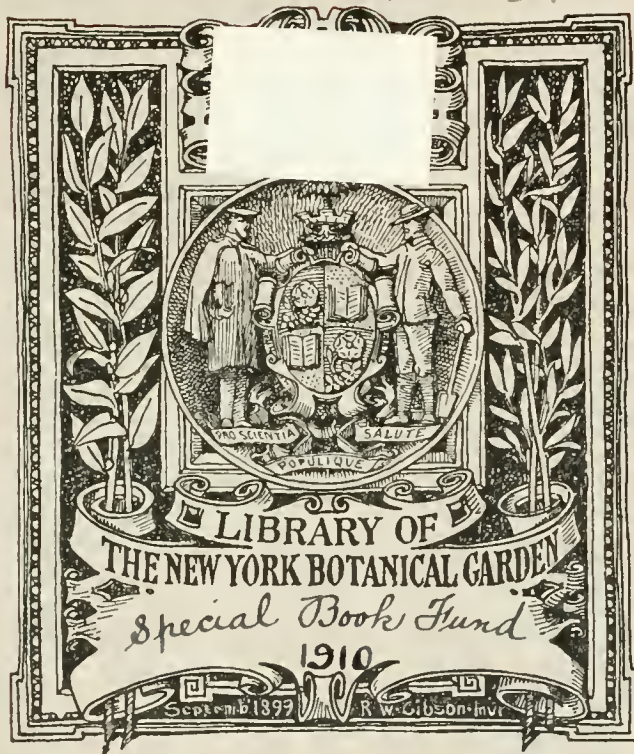






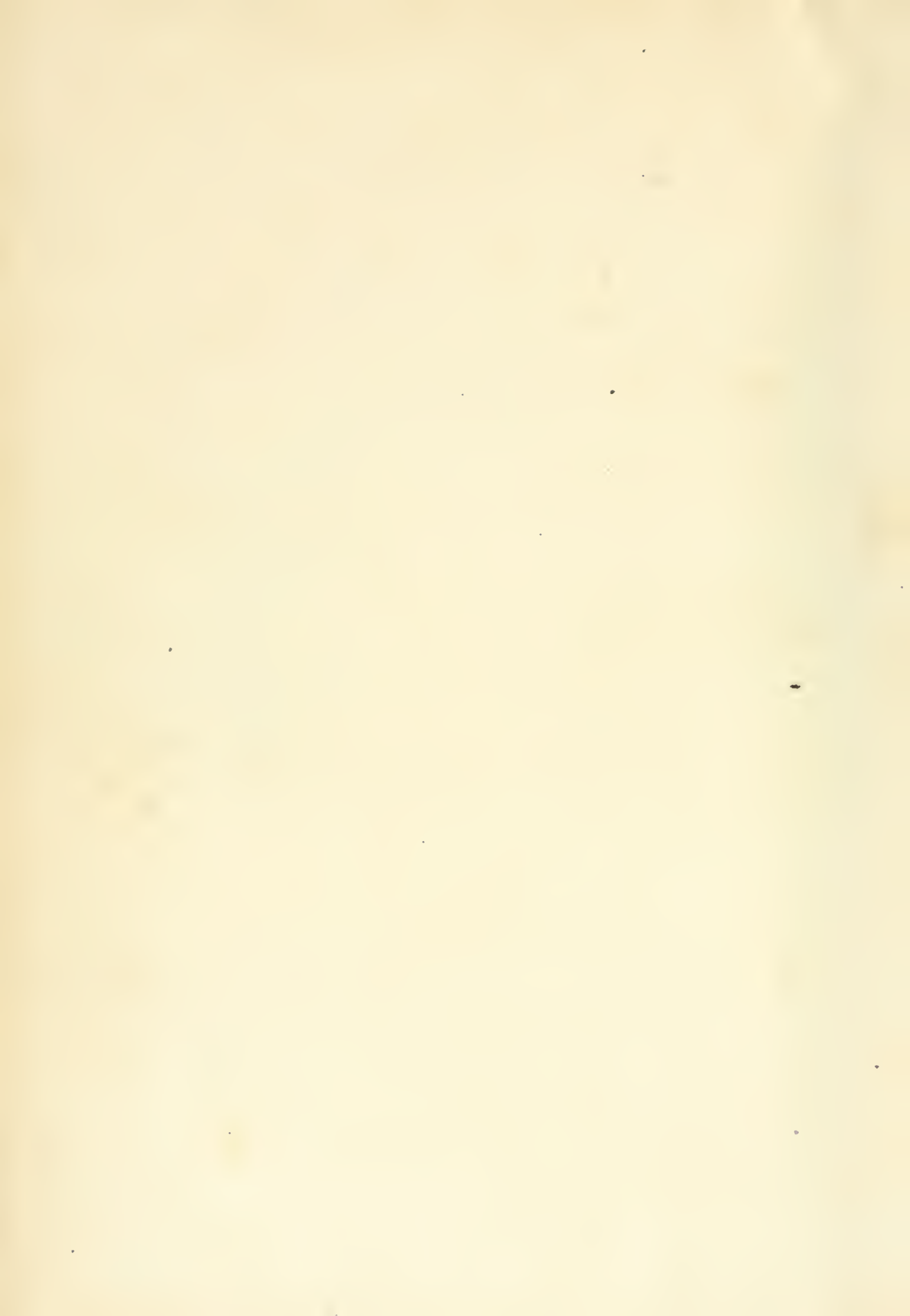
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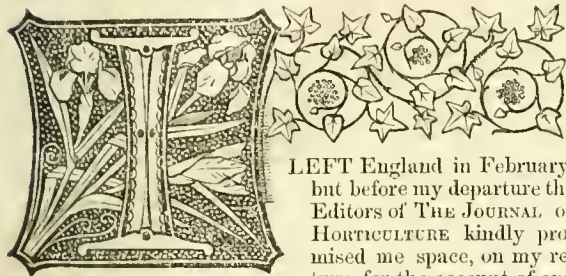


## WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 4-10, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Idacs.		Sun Sets.	Moon Idacs.		Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.		m.	h.				
4	TU	Tonday flowers.	75.3	59.6	63.2	13	51	af 3	17	af 8	59	af 3	11	4	185
5	W	Out flowers.	77.4	51.0	64.2	16	52	3	16	8	1	6	12	4	186
6	TH	Cat-tail flowers.	76.2	51.3	63.6	16	53	3	16	8	58	5	13	4	187
7	F	St. John's Wort flowers.	78.7	51.4	62.6	20	54	3	15	8	51	6	14	4	188
8	S	Black Horehound flowers.	74.1	50.0	62.1	19	55	3	15	8	36	7	16	4	189
9	SUN	4 SUNDAY AFTER TRINITY.	74.0	49.6	61.8	17	56	3	14	8	17	8	17	4	190
10	M	Wild Carrot flowers.	74.7	50.5	62.6	15	57	3	13	8	53	8	17	5	191

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 75.1°, and its night temperature 50.6°. The greatest heat was 97°, on the 5th, 1852; and the lowest cold, 33°, on the 9th, 1863. The greatest fall of rain was 0.82 inch.

# GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 1.



LEFT England in February, but before my departure the Editors of THE JOURNAL OF HORTICULTURE kindly promised me space, on my return, for the account of any

Ferns or plants I might meet with; and though I fear my success will not be deemed very great, I venture once more to write of what it has been, as I have journeyed to and from Rome, with eyes always turned longingly to rock, bank, and watercourse, seeking for the tufts of bright waving green, which ever and anon would call forth a cry of "Restate!" and a plunge from the carriage, trowel in hand, to dig up the treasure and transfer it to the tourist's bag, which I carried on my shoulder, or, rather, round my neck, at the imminent peril of suffocation when the booty was large and heavy.

I left England on February 22nd, in bitter cold, with snow many inches deep on the ground. We left snow at Lyons on February 25, and as we neared Marseilles we were told that the "mistral" was blowing there; and blow it did! The Olive trees bent their supple limbs to it—the fair pink bloom of the Almond trees fled before it; women did fierce battle with crinoline, and men drew their long cloaks about them, and all the time the sky looked intensely blue and innocent of the riot, and the sun shone brightly, and his rays burnt like fire. Happy England! happier Englishmen, to whom "mistral," "tramontana," and "sirocco" are unmeaning words. Alas! for those who shudder at their names, as they bring back to memory the blasting, blighting effect of these terrible scourges. An east wind is bad enough, with the dust and the chill it brings with it; but what of a scorching hot east wind that seems to burn up and shrivel all life in man and nature, and to blow Cayenne pepper and Chili vinegar down your throat? Yet in spite of the "mistral" we saw tokens of coming spring everywhere. Vine-dressers were busy in the vineyards pruning every spare branch, Olive trees were being banked up—the whole creation seemed watching and waiting for the resurrection so surely coming from the winter's grave.

In the market we found Violets, Camellias, Carnations, Anemones, Daffodils, Narcissus, Roses (China and red), and large beautiful Heartsease. The flower market of Marseilles is very curious and pretty, each market-woman having a stall covered with a huge umbrella under the shadow of a tree. In one of these stalls I saw a woman making a large flat bouquet of dark Violets as a cross with white flowers round. I asked, "Is that for a church?" "Oh no," she replied; "it is for a lady who is dead."

These large bouquets are placed on the bier when the body is carried to its last resting-place, and left on the grave, as gentle witnesses of the fleeting nature of all that is most fair on earth. Sometimes the grave is entirely bordered with flowers: sometimes there are only vases of flowers decked with ribbons and beads. The vegetables were such as we should see in a south-country market in England, with the exception that in Marseilles the first crop of Peas was being gathered, and we had some for dinner boiled and sweetened to (French) taste.

The first Fern I saw was at Nice: on my way to the English church I passed a cart filled with blocks of stone, and peeping at me from their crevices I saw Ceterach and Trichomanes. The churchyard was full of Roses in bloom (red and white), and the scent of Oranges and Lemons filled the air. Summer seemed at hand, and we bought dust-coloured parasols and overcoats in expectation of its near presence. *En route* from Nice to Mentone we saw by the wayside hedges of Roses, the pink wild Anemone (*Anemone hortensis*; the *memorosa* I have seen but very rarely in Italy), Scillas, Jonquils, and I believe the pink Cyclamen, with many other common flowers; there were also huge Aloes, Cactus, and Palms, with Orange, Citron, and Lemon trees loaded with flowers and fruit. Often when the road was high up on the rock we looked down on precipices made golden with the Orange boughs, and as we drove on our glorious way little black-eyed children threw branches of Orange trees, covered with fruit and flowers, into the carriage windows.

It was Shrove Tuesday, and the villages we drove through were alive with groups of merry laughing peasants gaping at the processions of mummers, who, in every sort of grotesque costume, paraded the streets. Entering Mentone we heard voices singing a chant. "Oh," said I, "here is a church procession. Let us wait." Presently we saw a party of men in white (in imitation of priests), bearing aloft a man, who spread out his hands as if blessing the people. "Pio Nono! Pio Nono!" shouted the crowd as they rushed headlong on in their mad gaiety. To an English eye the Carnival must ever seem a strange vestibule to Lent.

*Cheilanthes odora* is to be found at Mentone, but it was too early to hope to find the small fragrant fronds on the steep mountain sides, where later in the year it grows. The flora of Mentone is a very beautiful one: in April the hedges and rocks are a mass of gay and varied bloom; but there are few weeks during the winter months when the botanist may not find ample material for his tin and book.

Shortly after leaving Mentone I noticed the first tuft of *Adiantum capillus-Veneris*, and as the limestone rock and trickling water increased, the little tufts became vast masses; clefts in the rock, like miniature caverns, were covered with the fairy-like foliage, which in some places seemed to line the entire face of the rock. At rare intervals I found the Ceterach also, but no other Fern. *Cineraria maritima* grew in great quantities, its soft grey leaves waving to the sea breeze, which blew upon them over one of the fairest scenes to be met with on this most beautiful earth. Yet even the exceeding beauty hardly repaid me for the more exceeding fright the pass of the Cornice always gives me.



The road in many places is hewn on the face of the living rock, which stands in grand defiance, frowning on steep precipices going down, down, oh! so very far down into the surging billows beneath. For a great part of the way there is no protection—literally none; and every now and then you are greeted with pleasant remarks from the outside, such as—"Dear me! we were all but over when that carriage passed; the horses jibbed, or swerved, or something, and we were just over." Or, perhaps, it would be, "We had better wait a few minutes; they are blasting the rock ahead, and if a thundering piece came down the horses might take fright." Whatever the courage of the horses might be, I knew of one trembling passenger who was ever and anon reduced to study the geology of the steep rock rather than the botany of the precipice. Yet what a glorious sight it was! as we wound along our perilous way. On one side the blasting of the rocks showed all their grand colouring and veining, and the sunlight seemed to glint them with a thousand rich and varied hues. Beneath lay the deep blue Mediterranean, with white and red-sailed vessels here and there; while, stretching far away, before us and behind, lay soft blue distances with picturesque villages; now high upon some mountain side, now peacefully lining the shore, where fishermen in red caps and jackets stood about mending their nets, and little children played in and out amongst the boats. Every few miles we made perilous descents into these sea-side towns, and while the horses were rested we walked, gathering wild flowers, about the neighbouring *podère*, the *contadino*, pruning the Olives or Vines, only looking up to give a friendly glance at the stranger. On March 1, beneath the Olives or by the wayside, we gathered Daisies, Thyme, Wood Buttercups, Pellitory, Wood Mercurialis, purple and scarlet Anemones, Narcissus tazetta, Hawkweed, Rosemary, and Celandine; also very fine specimens of *Polygala vulgaris*, much finer than the English Milkworts. The weather was so genial we required no fire, and at San Remo we sat with windows open to the sea.

To engineers, the Cornice is just now specially interesting, from the magnificent line of railway they are making from Nice to Genoa. It seems almost too grand to be a human undertaking, chasms of such a tremendous depth have to be spanned over with giant viaducts, and rocks of such enormous proportions have to be bored through, rocks ending in precipices, with rocks again beyond. Everything seems to fall before the magic of the railway, or rather before the vast intelligence it embodies; old customs, old prejudices, old faiths are uprooted with the uprooted trees, and pass onwards and away with the advancing line. It is a strange thing to note the change a railway makes in an old Italian town. Life, energy, and purpose, side by side with inertness and decay, vast heaps of iron rails lying on beds of Myrtle and Lavender, causing the crushed and broken boughs to give out a delicious perfume; groups of peaceful-looking nuns passing quickly by where rough-looking and rougher-spoken "navvies" are at work. A mass of blasted rock lying by the roadside with Maiden-hair Fern trailing over it; smart Parisian bonnets, worn by the smart wives of the railway contractors passing down narrow streets, with none but Italian peasants in their fanciful costume to look upon and envy (?) them! Everything has a disjointed, out-of-place look, and it will be many years before the graceful pleasure-loving Italy of old will be able to adapt herself to the requirements of her more active and useful step-children, for born Italians the new generation does not seem to be.

On March 3rd, I found between Savona and Genoa, what I believed to be the Dunraven variety of *Adiantum capillus-Veneris*; the rachis is of stiffer growth, and the pinnules smaller than they are in the ordinary form. I also found what I believe to be a variety of *Asplenium adiantum-nigrum*, the form of fronds is more obtuse than in acutum, and the pinnæ more divided than in simple nigrum; but I grieve to own that one of our best Fern authorities has only dubbed it with the name *A. adiantum-nigrum*. I, however, venture to enter a trembling protest against this ignominious treatment. We were detained at Genoa by snow, and this on the 7th of March. It came stealing on the earth at nightfall, and, lo! in the morning every mountain lay glittering like diamonds beneath the rising sun, every vessel, every house, each bye-way, and marble path wore alike the same pure covering, beneath which poor Italy trembled and shivered as we never shiver in England. At night there was a sunset! our room looked over the noble white marble terrace, upon the harbour of Genoa, bristling with a thousand masts, a resting-place for vessels of every nation upon earth; the setting sun glorified the mountain tops, and light, fleecy clouds hung like lamps of fire above the gorgeous scene. Yet,

like all of earth, how fleeting was the glory! A moment and the fading light fell like a meteor on the lower banks of cloud, another instant and the tall masts rise like gloomy spectres against the clouds, the waters lie calm and silvery beneath, and here and there a quiet star looks down.—*FILIX-FEMINA.*

## LIQUID MANURES.

Liquid manure enters largely into the art of plant and fruit-tree culture in pots and borders where the amount of root-action is limited to a small space. That which I have chiefly used has been the drainings of a dunghill, not necessarily what might accumulate from the washing of the manure heap by the ordinary rainfall, but it was our practice to have the fresh litter, during the summer particularly, thrown up every ten days or fortnight, either preparatory to the formation of hotbeds or for manure, into a square heap, which was afterwards well saturated with water and covered with a layer of soil or road-scrappings, if not wanted for hotbeds. In this way the litter was more readily converted into manure, and the manure tank was never long empty.

These washings, whether artificial or natural, were the kind used, being the washings of horse, cow, and pig's dung in about equal quantities, for the horse droppings were mostly collected for Mushroom-growing. This liquid being used up, is made fresh every fortnight; it never had a noxious smell, and never, to my knowledge, fermented, consequently it was never very putrescent. The liquid was used for watering, and sprinkling the walls, paths, &c., of the houses; for watering, it was diluted with an equal volume of hot water, so as to make the temperature of the liquid equal to 90°. It was given to all plants after growth recommenced, always making sure that the drainage was good, and that there was an abundance of roots to absorb the food thus furnished. No plant was watered with the liquid unless the soil was full of healthy roots, nor whilst in a state of rest; and if fresh potted or top-dressed it was not watered until new and healthy roots and new growth had been made and were a little advanced. For instance: Calceolarias and Cinerarias, were not watered so long as they remained out of their blooming-pots, and not then until the roots reached the sides of the pots, but afterwards at every alternate watering up to the time of their blooming. Geraniums were treated in like manner. Pelargoniums were not watered so long as they grew sufficiently strong, for applications before the bloom shows or trusses form have a tendency to encourage growth at the expense of the bloom. On the other hand, when the growth was weak, the plants still having healthy roots, they were watered with the liquid diluted with four times its volume of water. After the trusses were visible, the plants were watered at every alternate watering with liquid manure up to the time of their coming into bloom generally. This was the treatment pursued with all kinds of soft-wooded plants, no liquid being given so long as they grew sufficiently well without it, for I am persuaded that soils are, or ought to be, made sufficiently rich to maintain the plant up to its showing its trusses or bloom-stems; the liquid given after this goes to strengthen the flower-stalks, contributing to the size, not number, of the blooms of the flower-head; whereas, when it is given at an earlier stage gross or strong growths are often formed, and these are often produced at the expense of the bloom, for a gross plant is seldom prolific of flowers. I make it a rule to water no soft-wooded plant until it has been long enough in its blooming-pot to fill it with roots, that being the only time when I have found watering with manure water of any advantage. To all bulbs after the spike appears or the foliage attains its full size, it is given to strengthen the truss, and increase the size of the flower. Such, however, as have the pots full of roots may be watered whilst the foliage is forming, which will improve in size, and then it is only reasonable to hope for finer flowers, to say nothing of the bulb becoming stronger by higher feeding. It very often happens that highly fed plants, and those of a bulbous nature are no exception, do not flower so finely as those not so strong; but this is only due to the extra feeding retarding the ripening process. Bulbs that are highly fed must be very well ripened, otherwise they will not flower satisfactorily. I may note in passing that plants highly fed require more light, at least a longer continuance of light and heat, to perfect or ripen the growth made, whether it be eyes or buds on a plant or the concentration of the current year's growth in a bulb for another year.



There are certain cases in which it is desirable to further growth by copious manure waterings, and particularly does this apply to fine-foliaged plants. Caladiums would, I believe, live with their roots in a manure tank: I have known Caladium argyrites treated as an aquatic, planted in water fully 3 inches deep, and it thrived amazingly. All the Caladiums like liquid manure, and a brisk heat, with slight shade. Alocasias revel in moisture and liquid manure when growing. Marantas, and all that have thick and fleshy roots, as Dracenas, the Palms generally, Aralias, Ficuses, Coleus, Billbergia (though half epiphytal, some quite so), Echmeas, Pandanus, &c., though many have fibrous roots, are improved in foliage by liquid manure when growing. There are indeed few plants to which it may not be given with advantage, but they must be in a healthy state—not necessarily vigorous, for then it is not needed, but having healthy roots. It benefits those most, however, that form thick roots, and those especially that require a loamy soil wholly or in part. Those plants that never form such roots, as Heaths, Pimeleas, Leschenaultias, Eriostemons, Correas, Azaleas, and Rhododendrons, it does not seem to improve much if at all, and unless given very weak, it is certain destruction to many of them if persistently applied, and that even when weak. I fancied Azaleas had finer flowers, and made finer wood with a little weak liquid manure than others supplied with water only, but I am not certain, and would therefore advise others to be cautious in applying liquid manure to any plant that requires peat soil for its successful growth. Their roots are so very delicate as to be soon destroyed; Camellias, however, care nothing about it, except when healthy, they like it both when the buds are swelling in winter or spring, and again when making their wood. It is necessary, however, that the soil be well drained and porous, and the roots healthy. It is useless giving strong food to a sickly person without an appetite, and so with plants. Weak but nourishing food is required by sickly plants; a sweet soil and atmosphere, and thorough cleanliness, are what they require until they gain strength, and are able to take and make the most of stronger food.

Annual plants as Balsams and Cockscombs, succeed better with liquid manure than with very rich soil, and so do Gloxinias, Gesneras, Achimenes, &c., from the time of their first showing their buds to that of their coming into bloom.

I have an impression that Ferns, Mosses, and the lower orders of plants are no finer in consequence of the application of liquid manure, or indeed manure in any form. Though many of them will grow and appear none the worse of weak doses, not too frequently given, say once a-week, they do not seem to grow any better, and they are not improved, nor can I say injured in a "manured atmosphere," whilst Orchids become more luxuriant, and have healthier and better-coloured foliage in such an atmosphere.

Now drainings of the dunghill will do wonders in a garden during a dry season. The Roses will bloom finer in consequence of watering them with it, from the time of the buds forming to that of the flowers expanding, applying it cool, though it would be none the worse of being boiled to destroy the eggs and larvæ of insects, even if allowed to cool afterwards. Roses in hot weather like the liquid cool, and so do all plants that are required to grow slowly and remain long in bloom. It may not be generally known that cold pump water will cause a plant to continue longer in bloom than were it watered with water exposed to the air. It is best, therefore, to use the liquid at 90° when we wish to forward, and cool when we desire to retard the flowering, fruiting, or perfection of vegetables. The liquid may be given to all out-door plants when diluted with an equal quantity of water.

Whether is hard or rain water the better? This is a question well worth considering. We frequently see rain water recommended as the best for watering. I have known a large establishment successfully managed with no water except pump water, and no matter how dry the summer there never was any scarcity of water. I think a pump and a deep well capital things in a garden. Spring water is the best of agents for keeping the roots of plants cool, and, much as I like soft water, it is a fact that plants in a hot summer do better with pump than with warm or aired soft water, particularly those delighting in coolness and moisture, as Roses, Calceolarias, and any others of which we wish to prolong the blooming. It is also good for Strawberries in hot seasons. I may add that pump water is soon aired by pumping it into an open cistern, and if this be elevated the water can be run where wanted by means of pipes, and hose to distribute it will obviate much of

the drudgery of watering. For tender plants pump water is not good, or rather ruin water is better.

To return. The drainings of a dunghill may be given to all out-door plants that are healthy, though weak, whilst growing, which it is desired to invigorate; the liquid being diluted with an equal quantity of water for the strong, and with four times that quantity for the less-growing kinds of plants, except such as Rhododendrons, Azaleas, Kalmias, Andromedas, Ericas, &c. There are other exceptions, as the majority of the Coniferae. Of all plants to which I have used liquid manure, tree Pæonies are those which show the beneficial effects perhaps more than any other, an application being afforded twice a-week from the time the buds are first visible up to flowering.

Passing on to fruits, I may say they all like copious waterings with liquid manure. I water Pines regularly with it, from the time that the suckers become well rooted up to fruiting—in fact from March to October. We water them with half drainings of the dunghill and half soft water, at a temperature of from 90° to 100°. During the winter months they are watered seldom, and with aired soft water only. To Vines in pots the liquid manure is given at every alternate watering, from the time of the buds breaking up to that of the fruit ripening; to Figs in pots, from the leaves appearing till these change colour—but it should be borne in mind that our Figs are always under-potted, for if Figs are liberally treated with pot room they grow too freely, and cast their fruit; and all stone fruits, from their setting up to ripening, are freely supplied with liquid manure. Musas in pots and tubs may have liquid manure every day when growing freely; Oranges too, may receive it when making new wood, and throughout the summer once or twice a-week. There is not a fruit tree grown in pots that is not benefited by frequent and copious waterings of liquid manure whilst in active growth, always excepting those of which the growths are already too luxuriant, or gross to an extent that interferes with their bearing.

Pines in beds are watered with liquid manure the same as those in pots; Figs, also, if the borders are filled with roots, and other fruit trees in borders, at every alternate watering. It ought to be borne in mind that, so long as the border is sufficiently rich to furnish strong wood and good crops of fruit, liquid manure is not likely to improve; for, though it might render the crop larger, it might produce rank growth, and imperfectly ripened wood. On the other hand, it may safely be given to trees whose growths are fruitful, the wood strong and close-jointed; and it may be given advantageously to those that are weak from want of nourishment in the soil, always making sure that the roots are in a healthy state. I was formerly of opinion that roots were more freely formed, and ran more readily through poor soil than rich. This, I find, is only in part correct; for, if we plant a tree in rich soil, roots will not be so readily emitted as when it is planted in poor ground; but when once emitted they ramify and extend more rapidly in rich than in poor soil. It is really astonishing how the roots will rise in pots surface-dressed with rich soil, even up into the top-dressing itself. I have nothing to urge against liquid manure, but I very much question whether it is as safe as top-dressings of manure. After the fruit has set, top-dress a fruit tree—say a Peach in a 15-inch pot—with an inch of fresh cowdung, so as to form a depression to hold water, and fill this with about two quarts of water every day, and renew the dressing of cowdung, an inch each time, at intervals of six weeks, up to the fruit taking its last swelling; give another tree an equal quantity of liquid manure daily, up to the same period, and which will be the healthier tree, and yield the finer fruit?

Of other liquids, I have used guano, at the rate of 2 ozs. to a gallon of water, for plants in the open air, and not frequently watered, or, if in pots, at the rate of 1 oz. to the gallon; and this last is the strength used for all plants of limited root-action in pots, tubs, and borders. The guano is best dissolved in a wooden tub, pouring the water upon it the night before using it. If placed in a watering-pot it quickly brings the point off, and corrodes the iron. A peck of fresh sheep's-dung, mixed with forty gallons of water, was a favourite liquid with the man in charge of the houses where fruit and vegetable forcing was carried on, whilst cowdung—a peck to twenty gallons of water—was much valued by the flower gardener. Horse-droppings, in the same proportion, were not thought much of. Soot-water, made by pouring, or rather pumping—for all the tubs were in a shed at the back of the forcing-houses, and a pump in the rain-water tank enabled all the barrels to be filled by the simple turning and shutting on or off of the water—forty gallons of water over a peck of soot, was much used.



In conclusion, I may state that I have used several chemical manures in a soluble form, but I never found one of them of any use, except to bring the leaves of the plants down. Remember, I do not include, in this condemnation, some of the sulphates, nitrates, and phosphates, which are manurial agents, but concentrated liquids, which are said to answer the same end as the pills of the Seythians, which would answer for food during a six-months campaign. The gluten of a bread loaf, brought into the compass of a pea, will no more satisfy and feed a hungry man than will a drop of the manurial constituents of a cartload of dung, condensed into an ounce phial, added to a bucket of water, be beneficial to plants.—G. ABBEY.

## CONIFERE PRODUCING CONES AT LINTON PARK.

THE fine dry autumn of last year seems to have exerted a fruitful influence on some of our trees, which this season have produced cones, and possibly some of these may arrive at maturity. I must, however, remark that the blooming of ordinary forest trees and shrubs was not so abundant as last year, and some of them have not the appearance of being loaded with their usual heavy crop of seeds. Walnuts will be thin, and the common Hawthorn will bear anything but a heavy crop. These things are, however, of little importance compared with the crops of edible fruits which form so important a feature in the general cultivation of the district, and which in most cases fall short of the expectation once entertained. My purpose, however, is to point out some Conifers which have here this season produced cones for the first time. Might I ask if they have done so elsewhere, and with what result?

**ARACARIA IMBRICATA.**—A fine tree of *Aracaria imbricata* has this season produced three large cones, which, from their manner of growth, promise to arrive at a size hitherto unknown amongst specimens furnished by other trees; the tree is upwards of 30 feet in height, and in outline more cylindrical than conical, the diameter of its branches at the height of 25 feet being about the same as at bottom. The top is gracefully rounded, and though the bottom branches for about 3 feet are gone, the next tier sweep the ground, so as to give that uniform outline so much admired in trees of this and similar species. The cones are near the top, are globular in form, and, as a lady justly observed a few days ago, are like hedgehogs in size and the bristly manner in which they are set with leaves, or rather spines, on all sides. Their size is quite equal to that of a full-grown hedgehog. From these cones appearing so early in the season there is reason to hope that they may arrive at perfection, the situation of the tree being favourable for maturing them, being dry, sunny, and sheltered. Indeed we have long thought the site drier than is wanted for a tree of this kind, but not having a tree of equal size growing on a situation of opposite character, although we have several smaller ones, it is, perhaps, premature to condemn the site, especially when it is known that the tree has never suffered from the severest winter, and promises so well.

**PICEA NOBILIS.**—A specimen of this fine Conifer which had lost its leader some fifteen years ago, and remained without one for several years, growing slowly in a lateral direction, at length sent up two leaders; and one being taken off, the other has pushed on as straight as a gun-barrel, and for the last four or five years the growth has averaged fully 3 feet. The tree is now upwards of 20 feet high, and as healthy-looking as could be desired, presenting that rich glaucous hue so much admired in this genus. This season several cones have been formed, and they promise to arrive at perfection. They are now upwards of 7 inches long, of a pale green colour, and to all appearance look as if they would attain a large size. The tree is on a dry stony situation, well sheltered from the north and east, and I hope the cones, from showing themselves thus early, may ripen.

**PICEA CEPHALONICA.**—A specimen of this has also shown cones this season in numbers. I am not certain whether it has done so before or not; they are, however, short and small compared with those of *P. nobilis*. The tree is more bushy, and has not the tall upright form of the last-named. An accident deprived it of its leader about twelve months ago, but it is making an effort to replace it by another, which will give the tree that conical form of which it is so good a representative.

Besides the above, *Pinus insignis* this season loaded with a more than usual number of cones, it having borne a quantity for several years in succession. It is too early yet for those of

*Cedrus deodara* to show themselves, but abortive ones have for some years been produced on our largest specimens. More perfect ones, black as Sloes, or rather of a beautiful purple black, have here been produced by *Picea Webbiana* each year, and this year is no exception to the rule. Some other *Pinuses* have also produced cones; but I have not seen any indication of *Wellingtonias* becoming fruitful, neither is such a state of things to be wished for, it being in some degree the precursor of disease and a premature death. I believe, however, it has shown fruit in some places, but I have not seen it. Some of the *Thujas* are also bearing cones, I am told, in places, but I have not perceived in that state any of those introduced within the last twelve years; but a second hot summer following on the dry autumn of last year may, perhaps, throw into a bearing condition some of those which have not hitherto produced cones; but there are many things more desirable than a young tree doing so.—J. RONSON.

## DINERS À LA RUSSE.

AND THEIR EXEMPLAIRES AT KENSINGTON.

WHAT is a "diner à la Russe?" This would seem to be a question as yet undecided, if one may judge from the character of the tables set out at Kensington on Saturday week. Is it a dinner for the advertising of china and glass? Is it a slice of a bad ribbon-border cut out and laid on a white cloth? or what is it? My inclinations do not lead me into society much. I do sometimes, it is true, dine with friends who, I believe, know what is correct; and I must say it seems to me that there was in many of the tables laid out on Saturday the 24th inst. a want of taste, a vulgarity and inappropriateness, that none of my friends would have tolerated at their houses.

What is a *diner à la Russe*? then, I repeat. My idea of it is, as compared with the old style of dinner parties, that it consists in this—that the dessert is laid upon the table at once, that the old *épergues* and *candelabra* give place to a lighter and more elegant ornamentation in the shape of flowers, and that the dinner is cut up at the side table and handed round. If I am correct in my ideas, then, I should have disqualified some of the tables, and certainly not have judged them as they were judged; and without wishing to say one word of disparagement either of the ladies who undertook the arduous task or the Academicians who assisted them, I cannot think they have tended to increase good taste amongst our dinner-giving friends. It must have been no slight matter to judge, for in defiance of all ideas of comfort and convenience, the tables were laid, some on one side, some on the other of the conservatory; so that, having decided on the merits of one half of the tables, the Judges had to cross the whole length of the conservatory, keep in their minds what they had seen, and compare them with the other half. When we remember that even in judging a few boxes of Roses you have often to take one stand and put it alongside of another, and that even then it is often a difficult matter, one can estimate what a task this must have been. It only illustrates what many besides myself think—that a really effective show of any kind can never be held under the present state of things at Kensington.

And now to the prizes. "Surely," I said to a friend as I approached the table that took first prize, "this must be a china dealer's," little thinking how near the truth I was. My objections to this are—First, that I think white china is a decided mistake. It may do all very well for a warmer climate, but in ours it is cold and chilly-looking; and as winter is the chief season for dinner parties, that ought to be considered. Second, The table was overloaded: it matters not whether this be with silver or china, it is contrary to the elegance that belongs to this new style of dinner table. Third, The dessert was not well arranged. The double butter-boats in which the fruit was placed, while pretty in themselves, were awkward. I do not know how Cherries were to be got out of them except by one's hands; and Strawberries must have been inevitably smashed before they found their way to one's plate. And then there was an absence of those pretty *glacé* fruits and fanciful *petits fours* which are indispensable to a handsome dessert. Then, fourth, It was a decided mistake to put the dessert plates on the table. While the centre of the table is laid out for a dessert, the covers should be arranged for the dinner itself—knives, forks, spoons, but no plates. And what can be more babyish than to have holes in the rims of the plates for water and flowers?



So far for the first. As to the second, fair ladies! what could have persuaded you so to honour it? There was neither taste nor beauty flat as a Chaldean plain. And then the lines of yellow, blue, red, and white! It is quite true there was no obstruction; but people do not generally talk across the table, and now that the old fashion of drinking wine together has gone out there is no need of this flatness; so that I do not see the force of the objection which this table apparently was intended to meet—that the view is generally too much obstructed. There is a medium in all things, but the extremes of flatness and overcrowding were to be seen in the second and first prizes.

As to the third, the elaborateness of the design and the minuteness of the details were contrary to that simple elegance in which true, genuine, refined taste so much consists. A mirror set in a gilt frame with glass stands placed on it, and crowded with Ferns, Stephanotis, and Orchids, is not to my mind the sort of thing one wants to see. Indeed, amongst the unsuccessful tables were many which in my poor opinion were far beyond those which were honoured; and were I asked to sit down at one of them I should most fervently hope that the taste of the *chef* was better than that of the dresser of the table, for if not, I should look for a fit of indigestion. It sometimes happens that when people imagine that there is something extra required of them, that they fail through excess of painstaking. I have known preachers to whom one has listened often with pleasure, when called upon for some special occasion become so unnatural, so unlike themselves, that one could only regret they had ever been called upon to undertake the sermon. The young lady whom you have listened to with such pleasure as she performed her morning's practice, when called upon before a large number surprises you not so much by the brilliancy of her singing as by the unnatural and stilted character of her performance. And so the other day in Paris at Lady —'s, the dinner table, arranged doubtless in its ordinary method for a *dîner à la Russe*, was far more effective and elegant than anything I saw at South Kensington. In these observations I am only uttering my own individual opinion. My canons of taste may be wrong, but judged by them I say that all the tables exhibited were defective.—D., Deal.

### ROSES AND STRAWBERRIES.

**ROSES.**—The Editors and "D." of Deal, are right about Duchesse de Caylus. It is a splendid first-class Rose, of great substance, beautiful clear colour, and excellent outline and folding. It bloomed on Sunday, the 25th of June, and has stood the broiling sun for three days without impression. Its colour is rich brilliant scarlet crimson. Its declining colour is rich clear pink. Mr. Adolphus Kent is here, and we cut up the plant and budded it on briars. Rushton Radclyffe is a fine, well-formed, full Rose, a strong grower, with good foliage, and an abundant bloomer, opening easily. These are very beautiful Roses: Lords Herbert, Macaulay, and Clyde. The first is full and beautifully folded, and of correct outline. The last two are of greater substance, and very beautiful and good. Lefebvre, Lords Macaulay and Clyde, Senateur Vaisse, and Gloire de Santenay are of great substance, and resist the sun well. The above five new Roses may be added safely to the five previously recommended. The next best and good are Alpaide de Rotalier, a larger and improved "old Cabbage" Rose, Leopold I., George Prince, and Madame Derreux Douvillé. I should like to see them bloom once more before confidently recommending them. All that I have named in this paper are good growers.

I cut twenty-four trebles to please Mr. Kent on Tuesday morning at 5 A.M.; they were good. The trebles of Charles Lefebvre, Gloire de Santenay, and Senateur Vaisse were fine.

**STRAWBERRIES.**—As regards Lord Clyde, I had only two plants of it, and being under a hot south wall, the blooms happened to come out early, and were destroyed by a very severe frost. I was amused at M. Van Houtte's very flattering notice of me in his catalogue. He says of me, "He is the most experienced and best judge of Strawberries in England." "He is the most caustic and picturesque writer, sparing no one; neither in prose nor in verse." "Till this great judge says, 'To be, or not to be,' raisers are in a state of the greatest anxiety." I can only say that "from the sublime to the ridiculous there is but a step." What I said of Lord Clyde and John Powell was this:—"They were the best novelties here, and were rich and good." Of John Powell I have about forty plants, and can now speak of it

confidently. The form of plant is excellent; it has set its fruit well. The berries are of good size, beautiful clear crimson, and of delicious flavour. It has cropped well.

In a few days, after I have tasted Mr. Ingram's No. 10, I will send to 171, Fleet Street, a short Strawberry treatise, as requested by a clergyman.—W. F. RADCLYFFE, *Tarrant Rushton, Blandford.*

### WATERING MELONS TO AVOID THEIR DECAY.

My Melons have hitherto succeeded excellently and are now ripening; but instead of ripening all over at one time, they decay at one end before the other end is ripe, so that the fruit are scarcely fit for table.—P. D.

[In watering give water to the roots without pouring it on the surface, and even then if the weather continues equally sunny place a piece of thin paper over the Melons during the hottest hours of the day.]

### THE KITCHEN GARDEN.

FEBRUARY.

Thus, if the weather is at all favourable, will be a busy month, but it is bad practice to work the ground when snow or rain has made it sloppy. During frosty weather, should it occur, the manure can be wheeled without injury to the walks, and the Pea-rows all pointed and stored separately in their different lengths. The pruning of the fruit trees, if it has not been done before, should also be performed, and when all are pruned I generally paint them over with a mixture of lime, sulphur, and soot, of a very thin consistency, in order to keep down the moss, and to act as a preventive against the ravages of the small birds on the fruit-buds. A handy man with an ordinary whitewash brush will soon go over a great number of bushes, after which, the ground between them being forked, all will look neat and clean. During very bad weather one can get the labels made, painted, and written to each separate packet of seed, which ought to be in by this time. I generally obtain mine from an old-established firm a good distance off, where I know most of the seeds are home-grown, and all to be depended on, as I consider it is a very good plan to procure them from a distance, for the change of soil and climate is beneficial. I seldom attempt to save seed of any kind myself, except a few Potatoes, which it is almost impossible to buy properly matured and greened ready for planting for an early crop.

Everything must now come up that can possibly be spared, such as Turnips, Colewort stumps, Savoys, &c., and the ground be manured and trenched, or dug, ready for the main crops, not forgetting when clearing off the Turnip bed to lay a few in some sheltered corner, where, with a little protection, they will yield a good dish or two of Turnip greens, which will afford an acceptable variety in the vegetable supply at this season. Savoys, too, may be kept on some time longer with a little management. A very good plan with them is to place two rows of Pea-rows opposite to each other, at an angle of 45°; throwing over them a little rough litter, and placing more sticks crossways to keep on the protecting material. As the Winter Spinach bed will now be the mainstay, it must be well looked after by loosening the ground between the rows, &c.; autumn-planted Cabbages the same. All intended plantations of Horseradish, Mint, and herbs, ought now to be pushed along, if not done before. In fact, we must seize time by the forelock and hold him fast till the beginning of May, when, if you have nothing else to do, you may rest and contemplate your handiwork of the two preceding months.

The supply at this time generally consists of Brussels Sprouts, Spinach, Savoys, Turnip Greens, Coleworts, Kale of sorts, Sprouting Broccoli, and Winter White Broccoli, if so fortunate as to have any that have stood the severity of the weather. With salading very little can be done, except with that under protection, as Celery, Lettuce, Endive, and Mustard and Cress. Several things may now be sown with a chance of success. Should some of them fail, sow them again directly, a good gardener is never down-hearted; but be sure to select dry sunny days for sowing.

I generally sow a pan of Cole's Crystal White Celery, and a pinch of Cauliflower seed, and put them in one of the pits. In the beginning of the month I sow two rows of Dickson's Favourite Peas, and, before the month is out, two rows of



Veitch's Perfection, sowing them but 3 feet apart in the rows, as by the time they are done with the ground can be prepared for autumn Broccoli, and, if possible, I sow my Parsnips before the month is out, also a few rows of spring Spinach on the ground that will be required for the second lot of Dwarf Kidney Beans. The above are all sown in the open quarters, and on the border I sow a few small beds of such things as Early Horn Carrots and Red Dutch Cabbages, and plant a few rows of Robinson's Golden Kidney Potatoes. Some Radishes may be sown on the top of them, not forgetting to take the necessary precautions against the weather and the birds, which are very fond of Radish seed; sowing, in addition, a row or two of Parsley in some convenient quarter, is about all that can be ventured on in this month.—BRENTWOOD, P.D.

(To be continued.)

### SIPHOCAMPYLOS BICOLOR.

THE *Siphocampylos* is a most useful plant for in-doors, seldom being out of bloom; but it is more adapted for a large conservatory than cultivation in pots. Its rambling habit renders it rather difficult to grow in pots to form a neat specimen, but when planted out either against a wall or pillar in a cool house its true character is at once developed. A plant in our conservatory at this place has bloomed beautifully all through the winter, and is still in fine condition; and I believe the same plant to have occupied the same place for the last fourteen years, and shows no signs of death, but is as healthy and vigorous as it was ten years ago. It strikes freely from cuttings at any season, and thrives remarkably in good loam, leaf mould, and an addition of a handful of sand. I have tried to grow it in pots, but never succeeded in making what I call a respectable-looking plant. Others may be more successful.—(J. E. in *Scottish Gardener*.)

### THE ROYAL HORTICULTURAL SOCIETY'S ROSE SHOW.

THIS was held on Saturday the 1st inst., and was decidedly the best Rose Show which we have seen, or, indeed, we believe, that has taken place this season. Not only was the number of boxes exhibited very large, but the quality was excellent. Beneath the roof of the conservatory a light canvas awning extended from end to end, serving the double purpose of breaking the force of the sun, and preventing the height of the building dwarfing the blooms. Under this two rows of stands, one on each side, extended from end to end of the conservatory, and the exhibition was prolonged into the adjoining arcades.

Class I. was for seventy-two kinds, one truss of each. Here there was a close competition between Messrs. Paul & Son and Mr. Mitchell of the Pitdown Nurseries for the first place, both collections being very evenly balanced as regards the number of first-rate blooms. Messrs. Paul & Son, however, carried off the palm. Among their blooms we noticed fine examples of Maurice Bernardin, Gloire de Santenay, Vainqueur de Goliath, Madame C. Crapelet, Lælia, Senateur Farre, Madame Furtado, Duc de Rohan, Comtesse de Chabillant, Pierre Notting, Monte Christo and Prairie de Terre Noire, Caroline de Sansal, Madame Alfred de Rongemont, Queen Victoria, the new yellow Tea, Maréchal Niel, Anguste Vacher, Gloire de Dijon, Alba Rosea, and Louise de Savoie. From Mr. Mitchell, who was second, came many of the above, Madame Masson, Madame Charles Wood, Wilhelm Pfitzer, Vicomtesse Douglas, Leopold Hausburg, Maréchal Souchet, Madame Julie Daran, Charles Lefebvre, Victor Verdier, George Prince, Senateur Farre, Madame Boll, Duc de Cazes, Madame Caillat, General Washington, and Duc de Rohan. Mr. Keynes was third with La Reine, François Premier, Cloth of Gold, Alfred de Rongemont, Louise Peyronny, Devoniensis, and many others very good; and Mr. Cant had the fourth prize—Rubens in his collection was very beautiful. Mr. Fraser, of Lea Bridge Road, had also an excellent exhibition.

In Class II., forty-eight kinds, three trusses of each, there was a very rich display, and, as in the preceding class, Messrs. Paul & Son again took off the first prize with fine trusses of Madame Charles Wood, Devoniensis, Lælia, Comte de Nanteuil, Vicomte Vigier, Lord Clyde, Maurice Bernardin, beautiful; Olivier Delhomme, very fine; Madame Villermoz, Vicomtesse de Cazes, Senateur Vaisse, brilliant; Madame Furtado, Gloire de Santenay, Madame Rivers, &c. Mr. Keynes was an excellent second with beautiful trusses of Souvenir de la Malmaison, Virginal, Comte de Nanteuil, Alpaide de Rotalier, Lord Macaulay, Sœur des Anges, Vicomtesse Vigier, Monte Christo, Triomphe de Rennes, L'Eblouissante, Gloire de Santenay, America, Madame Rivers, and others scarcely less fine. Mr. Francis, of Hertford, was third; Messrs. Lee, of Hammersmith, fourth.

In Class III., twenty-four kinds, three trusses, a beautiful exhibition from Mr. Keynes took the first prize. Particularly noticeable were Madame Charles Wood, Madame Boutin, Général Jacqueminot,

Madame C. Crapelet, Madame Vigneron, Charles Lefebvre, Maurice Bernardin, Maréchal Souchet, a fine dark-shaded crimson; Madame Furtado, and Gloire de Vitry, the last very fine. Mr. Cant, who was second, had fine examples of Victor Verdier, Madame Vidot, Madame Furtado, Prince Camille de Rohan, Jules Margottin, John Hopper, Queen Victoria, Colonel de Rongemont, Général Jacqueminot, Madame Clemence Joigneaux, &c. From Mr. Fraser came John Hopper, Maréchal Vaillant, Impératrice Eugénie, Madame Vidot, Gloire de Santenay, and Madame Julie Daran, all of them fine. Mr. Fraser had a third prize, and the fourth was taken by Messrs. Paul & Son, in whose collection we noticed Duc de Rohan, very brilliant in colour; Louise Magnan, very pretty, nearly white, and Madame Vidot.

Class IV. was also for twenty-four kinds, single trusses. Mr. Keynes took the first prize with Senateur Vaisse, Madame Charles Crapelet, Souvenir de la Malmaison, very large; Triomphe de Rennes, Alpaide de Rotalier, Charles Lefebvre, Louise Peyronny, and Comte de Nanteuil, very large. Mr. Fraser, who was second, had also some excellent blooms, particularly Madame Vidot, Beauty of Waltham, and Devoniensis. Mr. Cant was third, and Mr. Clarke fourth.

Class V. was for Amateurs only, single trusses of forty-eight kinds. The first prize went to Mr. Hudge, Reed Hall, who had, among others, fine blooms of Sœur des Anges, Madame Bravy, Olivier Delhomme, Victor Verdier, George Prince, Caroline de Sansal, Queen Victoria, Gloire de Dijon, Louise Magnan, Niphotos, Madame Boll, President Lincoln, and La Ville de St. Denis. From Mr. Ingle, gardener to G. Round, Esq., Colchester, came also a good exhibition, in which we noticed Comtesse de Chabillant, Senateur Vaisse, Beauty of Waltham, Cloth of Gold, François Premier, and several others very good.

In Class VI., single trusses of twenty-four kinds, Mr. Ingle was first; Mr. Moffat, Easton Lodge, Dunmow, second; Mr. Hedge third; Mr. Exell, gardener to J. Hollingworth, Esq., and Mr. Sawkins, Hertford, equal fourth. In this class there were very good examples of General Washington, Charles Lefebvre, Jules Margottin, Madame Furtado, Louis XIV., Victor Verdier, and Louise Magnan.

Class VII., was for eighteen single trusses. In this Mr. R. B. Postans, of Brentwood, took the first prize with Triomphe de Caen, bright purplish scarlet; Senateur Vaisse, Jean Goujon, Duc de Rohan, Madame Vidot, Maurice Bernardin, Vicomte Vigier, and Souvenir de la Malmaison, all of them fine. The Rev. V. Child, Little Easton, was second; Mr. Marlow, gardener to W. J. Wigan, Esq., Mortlake, and Mr. Cruckshank, gardener to W. J. Loyd, Esq., being equal third.

In Class VIII., for twelve trusses, Mr. Postans was again first; Mr. Marcham, Hanwell, second; and Mr. Smith, gardener to F. Moxon, Esq., Leyton, third.

Class IX., was for eighteen new Roses of 1863 and 1864, but these were generally not in the best condition to judge of. Pierre Notting, deep violet-shaded crimson; Rev. H. Dombain; Charlemagne, deep rose; Paul de la Meilleray, Maréchal Niel, Alpaide de Rotalier, Leopold, Premier, and Maréchal Souchet (Damaizin), rosy carmine, were the most noticeable of those in the collection of Messrs. Paul & Son, who took the first prize. Mr. Cant, who was second, had Sœur des Anges, a very beautiful pale rose, almost white; Maréchal Niel; George Paul, a fine bright red; and Madame Victor Verdier, all of them fine varieties. Mr. Fraser was third. Joseph Fiala, Paul de la Meilleray, Duchesse de Morny, and Madame Victor Verdier in this collection were fine. Mr. Francis was fourth; and in an excellent collection from Mr. Keynes, which unfortunately contained two blooms of Laurent Descourt, and was, therefore, disqualified, Maréchal Souchet (Guillot), was a fine, deep, velvety crimson. There were besides very good examples of Pierre Notting, and other kinds named above.

In Class X., twelve trusses of any new kinds of 1863, Messrs. Paul and Son were first with beautiful blooms of Lord Clyde; Mr. Cant second with the same kind.

In Class XI., twelve trusses of any kind, Mr. Cant was first with Devoniensis, most beautiful; Messrs. Paul & Son second with François Louvat, fine lilac-shaded crimson; Mr. Keynes third with Madame Charles Wood, very large; and Mr. Cattell fourth. Beautiful boxes of Charles Lefebvre, Senateur Vaisse, and John Hopper were shown by Mr. Francis and Mr. Cant.

Among yellow Roses shown in Class XII., the beautiful new yellow Tea Rose, Maréchal Niel, was conspicuous; and of others, Louise de Savoie, Cloth of Gold, Vicomtesse de Cazes, L'Enfant Trouvé, Narcisse, and Celine Forestier were well represented. The exhibitors were Messrs. Cant, Paul & Son, and Hedge, who took prizes in the order in which they are named.

Class XIII., for twelve Tea-scented and Noisette Roses, exhibited considerable sameness owing to the want of high-coloured flowers in these sections. Mr. Exell was first with good examples of Isabella Gray, Vicomtesse de Cazes, Triomphe de Rennes, Solfaterre, Madame Bravy, Comte de Paris, Niphotos, Madame Villermoz, and Gloire de Dijon. Mr. Ingle was second. In the corresponding class for Nurserymen, Messrs. Fraser, Cant, and Paul & Son were respectively first, second, and third.

In Class XV., single blooms of twelve kinds, Mr. Keynes, who was first, had beautiful examples of Devoniensis, Gloire de Santenay, Alpaide de Rotalier, Maurice Bernardin, Gloire de Vitry, and Madame C. Wood; Mr. Francis was second, and Mr. Cant third with good blooms of several of the above, Charles Lefebvre, Madame Furtado, and some others.

Vases of Roses, shown in the succeeding class, were almost identical,



March's stands being used by all the exhibitors, and in the first and second prize vases, the stem of the stand was twined round with *Lonicera atro-rotundata*, the Roses at the base and in the top dish in each case, resting on Ferns. Mr. Ingle was first, Mr. Marlow second, and Mr. Beasley, Twyford Abbey, third, *Isoplepis gracilis* being employed by the last named in the top dish. In six bouquets of as many kinds, Mr. Keynes was first, Mr. E. P. Francis second, Mr. Hedge, third; and for Moss Roses, Messrs. Paul & Son were first, with, among others, the White Bath and the Crested very good.

Roses in pots were not in good condition. Messrs. Paul took Mr. Kelk's prize for those in six-inch pots.

Of miscellaneous objects Mr. W. Paul sent a collection of Roses raised by him from seed, or introduced by him, consisting of Glory and Beauty of Waltham, Cœur de Lion, Lord Herbert, Prince de Joinville, Princess of Wales, Dr. Lindley, and Lord Macaulay, all different shades of crimson and scarlet; Queen Victoria, delicate pink; Madame Emile Boyan, a very promising light Hybrid Perpetual; and Elizabeth Vigneron, blue-shaded rose. Many of the above require no comment, their merits being already recognised. Messrs. Jackman sent numerous blooms of their beautiful new Clematises; and Messrs. Naylor, glass and table ornaments.

### SYRINGING GRAPES.

I beg leave to differ very much from your correspondent, Mr. Whittle, respecting the syringing of fruiting Vines, unless called for by some unusual occurrence, as red spider, making its appearance; then I say by all means use the syringe freely for a few days until it is all washed off. My principal reason for not syringing is, that it is impossible to do so without leaving a mark on the berries from a deposit in the water, which quite spoils their appearance for exhibition or table, where it is necessary they should be perfection, not that it injures the Vines in any way, or does them any good, as is proved by the fine Grapes exhibited at our London shows, without ever having a drop of water thrown on them. I quite agree with his remarks on stopping. N. W. D. P.

### COLOUR AND SOUND.

In all specimens of good colouring there is a key colour, and that colour predominates. In the historic pictures of the old masters that colour is usually crimson or violet, and these answer to C and B, root notes, especially C, in the musical scale. It is curious that Professor Sanderson, who was born blind, and had no conception of colour, said that he thought red must be like the sound of a trumpet.

On this connection of music and colour a well-known man of science some years ago wrote to us as follows:—

"Taking the seven colours of the rainbow as equivalent to the seven notes of the natural musical scale, the order will stand thus:—

Red.	Orange.	Yellow.	Green.	Blue.	Indigo.	Violet.
C.	D.	E.	F.	G.	A.	B.

The red here sounds the key colour of the prismatic series, and corresponds to C, the root note of the musical scale in the natural key, and both would of course be again repeated as the octave or eighth degree of the gamut. Red, then, must be just as prominent in well-conceived pictures as C in musical pieces composed in that key; and the remaining sounds and colours have corresponding functions in the two sciences.

"Every one knows that, for the convenience of musicians, the notes of the scale are both numbered and lettered—the first seven letters of the alphabet and cardinal numbers being used. Thus, in the key of A, the scale is numbered and lettered as follows:—

A.	B.	C.	D.	E.	F.	G.
1.	2.	3.	4.	5.	6.	7.

Now, it does not signify what note we may start from, for the constitution of every key is the same, and only differing in the pitch being high or low, as the case may be. The key of C, however, is chosen by musical men as a standard, and hence called the natural key. As such I shall adopt it in the present notice. The order will then be as in the following table, to which I also add the equivalent colours:—

C.	D.	E.	F.	G.	A.	B.	C. (octave*)
1.	2.	3.	4.	5.	6.	7.	8.
Red.	Orange.	Yellow.	Green.	Blue.	Indigo.	Violet.	Red.

"Now, in harmonising tunes composed in this key, four grand chords are employed—that is, four combinations are chosen out of these seven notes, and severally used when they

\* The first note, in effect, is repeated eight notes higher, and hence called the octave.

will apply as accompaniments to the notes of the subject or air. These chords, then, in letters, numbers, and colours being known, the scientific or artistic gardener may modify them, invert them or change their position, and alter the arrangement of their fundamental constituents at his own pleasure. The chords are as follows in their natural position:—

#### I.—THE COMMON CHORD OF C, RED.

Natural position.	First change.	Second change.
5. G, blue	1. C, red	3. E, yellow
3. E, yellow	5. G, blue	1. C, red
1. C, red	3. E, yellow	5. G, blue

#### II.—THE COMMON CHORD ON F.

Natural position.	First change.	Second change.
1. C, red	4. F, green	6. A, indigo
6. A, indigo	1. C, red	4. F, green
4. F, green	6. A, indigo	1. C, red

#### III.—COMMON CHORD ON G, BLUE.

Natural position.	First change.	Second change.
2. D, orange	5. G, blue	7. B, violet
7. B, violet	2. D, orange	5. G, blue
5. G, blue	7. B, violet	2. D, orange

"The fourth table may in the same manner be constructed on the key of F, green."

Now all this was brought to memory by the wonderful Handel Festival just concluded at the Crystal Palace. It was objected that this Palace is not an appropriate place for oratorios, but the retort was a silencer—"Music and flowers are associated with our ideas of Paradise," and a lady added, "I never hear the trumpet notes in 'Let the bright Seraphim,' without my eye resting unconsciously on some very bright colour."

There is, therefore, in cultivated minds an association of colour with sound—a harmony between certain tints and certain notes; they may be, and are enjoyed together at the musical celebrations in the Crystal Palace; and the combination is not without applicability even to the gardener. "Optics associated with Acoustics," might form the theme for an additional chapter in "The Connection of the Physical Sciences."

### VINE CULTURE.

(Continued from Vol. VIII., page 411.)

If all has gone on well, the Grapes will be done stoning by this time; all berries that are not likely to swell off kindly should be cut away at once; the temperature may be increased a little, and a moist atmosphere maintained by frequently syringing the floor and paths of the house. If the stopping of the Vines has been carried out according to the directions given at page 410, there will be sufficient leaves left on the Vine for all purposes. All laterals that make their appearance should, therefore, be pinched out as soon as they are produced, in order that the whole force of the roots may be directed towards the Vine for the purpose of giving it sufficient strength to mature its present crop, and to provide for the crop of the following year. If the laterals are allowed to extend beyond the limits before described, much of the strength of the Vine will be wasted. From the time the Grapes have finished stoning till they begin to colour, they should be well supplied with water two or three times a-week, in such a dry season as the present, and when water is given it should not be with a sparing hand. To give a Vine-border a small quantity of water is worse than useless, better withhold it entirely. My plan is to sprinkle a little guano over the border, on this the water is poured, not by scores of pottfuls at a time, but by hundreds. I generally put five or six men on with two pots each at one watering, for a border 35 feet by 10 or 15 feet wide I use a tank of water holding about four thousand gallons. Between the time of stoning and colouring I generally give my borders about four such soakings as this, using a little guano each time. Besides this, they are watered two or three times weekly, as stated above. From the time of stoning till the Grapes begin to colour, avoid sudden changes of atmosphere as much as possible. Give air as early in the morning as possible, by opening the top lights a little to allow the foul air to escape, and to dry the condensed steam that settles on the foliage during the night. If this is neglected the foliage is often burned up by the sun.

As a preventive is always better than a cure, paint the whole of the hot-water pipes over with a thick coating of sulphur. If this is mixed with a little soft soap it will stick to the pipes



better, and will not be so easily washed off by the syringe. Smear the walls and every available place in the house with the sulphur brush; this will prevent the appearance of two of the Grape-grower's worst enemies—namely, mildew and red spider. As soon as the greater part of the berries have partly changed colour give all the air possible night and day, this will help to impart a fine flavour, and assist the colouring process very much. Fire heat should not be dispensed with until the Grapes have finished colouring, and in damp or dull weather they should have the benefit when ripe of a little artificial warmth to keep them dry, and to cause them to retain a sweet and brisk flavour. After the crop of fruit has been all gathered give the borders another good soaking with water, using a little guano as before. Give abundance of air by opening all the lights as wide as possible, but by no means take off the top of the house. I mention this particularly, as I know it is often done with the idea of ripening the wood.

If the top lights are taken off the foliage cannot possibly be preserved, it is blown about against the wires by the wind, and by that means becomes very much mutilated. Its decay is, therefore, brought on much earlier than it ought to be, and the Vine suffers very much in consequence of losing a large portion of its foliage before its proper time, or before it has fulfilled its natural functions of storing the Vine with food as long as the sap was in circulation.

I am very glad my previous article is likely to provoke a little discussion on the cultivation of the Vine. This is what I was anxious to promote. I did not wish it to appear that the plan described and adopted by me was better than that of any other Grape-grower, personally knowing as I do many of our celebrated Grape-growers. I was in hopes that a description of the simple plan pursued with a fair share of success by myself, would be the means of inducing some of the more successful growers to favour the numerous readers of THE JOURNAL OF HORTICULTURE with their system of cultivating the Vine. The Editors would, I am sure, gladly open these pages to all who would communicate their ideas on the cultivation of the Vine, or any other subject connected with practical gardening.

Mr. Whittle is quite right in thinking that I did not allude to the cultivation of Vines in pots in my last article; that will form the subject of another communication. I fear Mr. Whittle's views will not be very well received with regard to stopping the Vine. In the first place, Mr. Whittle says he would not stop at all until the fruit were set. The evil to be expected in this case would be this: By the time the fruit had set the shoot would have, perhaps, six or more leaves above the fruit-joint, and would have grown 18 inches or 2 feet above that joint. This being the case, it is natural to suppose that it will have very much exhausted the Vine, and a great portion of the strength of the Vine, which would have been directed into the bunches had the shoot been stopped at the proper time is thereby lost, and the size of bunch and berry very much reduced. Then, again, to cut off a strong shoot when it is nearly the size of one's finger just above the bunch, must cause a very sudden check to the whole system of the Vine; and I must, until I am further convinced, beg most respectfully to differ in opinion from Mr. Whittle with regard to stopping. I consider that when the shoot is stopped at the joint from which the bunch grows, and that when the bunch is just formed, a greater quantity of sap flows to the point than the bunch and one leaf can make use of. In my opinion the two leaves above the bunch are necessary to absorb the superfluity of sap until the fruit is set, when the bunch can take without injury all the sap that can be spared by the Vine, and the atmospheric food supplied by the foliage above the bunch as well.

Mr. Whittle says he differs with me *in toto*, as to syringing after the Grapes are set, and that no one would think of syringing whilst they were in flower. Mr. Whittle may, perhaps, think me mad when I tell him that for many kinds of Grapes that is the most proper time to syringe them for the purpose of causing them to set freely, especially in the case of Lady Downe's and Muscat of Alexandria. I admit the treatment adopted by Mr. Whittle was quite right with regard to the Vines he described the first year he undertook the management of them; but if he would subject them to the same treatment on the two following seasons—namely, to syringe the Vines, fruit and all, up to the time of the berries changing colour, the water he is using must be clear indeed. Lastly, Mr. Whittle must allow me to differ very much in opinion from him with respect to aiding fertilisation. He may have been fortunate this season, and nature may have done much for him without his aid, but he may find another time, when other natural

agencies are not at work in his favour, that nature could be very much assisted by art; but more of this anon. In the meantime I hope Mr. Whittle will favour us more fully with his views on the cultivation of the Vine.—J. WILLS.

(To be continued.)

### PASSION-FLOWERS NOT BLOOMING.

"E. M." has two Passion-Flowers (*P. cœrulea*) trained against a south wall. They have grown about 20 feet, and were shifted last year into tubs 15 inches in diameter. Should "E. M." give liquid manure to induce them to bloom which hitherto they have not done, or what treatment would be most likely to lead to that result?

[You may give manure water and plenty of it with great propriety. If the wood of last year was well ripened, almost every shoot that comes from it this season, will give you plenty of bloom. Nothing is easier managed afterwards, you have only to cut back these flowering shoots in spring to two or three buds, and these will throw out the summer flowering-shoots next year.]

### PEACHES AND GRAPES SWELLING SLOWLY.

THE Peaches in my orchard-house are at a stand-still, they are now just the size they were a month or five weeks ago. They appear to be quite hidebound and do not swell at all. The stone is getting quite hard, the kernel looks perfect, and the trees are quite healthy. I turned one out of the pot to see if anything was amiss with the roots, they were looking well and not at all dry.

I also have a house of Muscat Grapes that do not stone as they ought.—F. K.

[The Peaches are most likely all right, you must give them time, they stand still a long while at the stoving period.

As with the Grapes you must either have too many on the Vines, or the roots are in a soil they do not like.]

### NEW BOOK.

*Hardy Ferns: how I collected and cultivated them.* By NONA BELLAIRES. London: Smith, Elder & Co.

"ONE of Nature's simplest pages—I had almost said one of its prettiest—is that which I have made the subject of this small volume.

"The common hedge-row, the old wall, the rock by the sea-coast, and the wild moor, provide for us the little kingdom of Ferns, whose peculiar habits of life and growth form a pleasant study for our hours of recreation.

"We should begin our collection from those which grow near our own homes, bringing first one root, then another, finding out to what family they belong, what soil suits them, and their distinctive characters and habits.

"The cottage garden may always have room for its fernery; a few plants by the old well, by the wicket-gate, will supply subjects for thought and study; helping to turn the child's heart to the love of the pure and beautiful instead of the vile and the debasing."

To lead to and to aid in effecting the good thus depicted, the authoress has laboured attractively and ably. Our readers will recognise in the volume contributions that have been admired in our pages, but they are now collected in a form so tasteful that no lover of Ferns but will be glad to possess the volume.

### ROYAL HORTICULTURAL SOCIETY.—JUNE 27.

FLORAL COMMITTEE.—Although the subjects for examination were not quite so numerous on this occasion, there were several novelties and plants of considerable interest. Mr. Rust, gardener to the Earl of Abergavenny, sent a collection of cut *Antirrhinums* of no merit; also a seedling *Myosotis*, with dark blue flowers. Mr. Herbst, Kew, sent a seedling *Amaryllis grandis*, with dark scarlet flowers, of good substance, but wanting in form—not nearly equal to *Amaryllis Unique*. Mr. Williams, Holloway, sent *Statice palvula*, also a nice specimen of the beautiful New Zealand Fern, *Todea superba*, which had received a first-class certificate at a former meeting; *Lilium* species from Japan, small bright yellow spotted flowers—second-class certificate; *Trichopilia picta*—second-class certificate; *Lilium* species, semi-double, dull red, spotted flowers; *Phalœopsis amethystina*, very small and insignificant; a cut specimen of *Odontoglossum laeve*, the flowers with remarkably narrow segments.



Mr. Gill, Bradfield, exhibited a white seedling *Verbena Beauty of England*, a plant of great merit; the truss very large, the flowers flat and smooth, very pure white; a first-rate *Verbena*. It was awarded a first-class certificate. J. Day, Esq., Tottenham, exhibited a new *Orehid*, *Palmatina candida*. This curious plant seemed much to interest *Orehid* amateurs. It was awarded a first-class certificate. Also, *Acridos Lindleyana*, very beautiful—first-class certificate; *Polychilus cornu-cervi*, well named from the flower-spike while in bud resembling a stag's horn—first-class certificate; *Promenax citrina*, was awarded a first-class certificate in May; *Cypripedium*, new species. A special certificate was awarded to Mr. Day's general and beautiful collection. Messrs. Jackman, Woking, sent three seedling *Clematises*. They were *Prince of Wales*, a very fine, large, dark purple flower, the petals striped with red, very distinct—first-class certificate; *C. rubella*, smaller flower, but equally good in form, with more red mixed with the purple, distinct and beautiful—first-class certificate; *C. Princess of Wales*, a paler-coloured flower, not so perfect in form nor so full. H. Walker, Esq., Horsey, sent *Phytolacca glauca*, a new, distinct, and handsome Fern—first-class certificate; and *Polystichum* sp., a half-hardy Fern—first-class certificate. Mr. Winsor exhibited seedling *Zonale Pelargonium Pink Perfection*. Mr. George Smith, Horsey, showed seedling *Zonale Pelargonium Chieftain*, a very bright orange scarlet flower, of excellent form and good truss—first-class certificate; *Zonale Pelargonium Christabel*, pure white, with small salmon centre—this will probably improve as the season advances; *Zonale Pelargonium Alpha*, something like the first in colour, but not so good in form; *Zonale Pelargonium (Nosegay) La Grande*, a very fine truss, distinct in colour—carmine crimson; this will be a very useful plant for bedding, both on account of its bright flowers and general habit. Mr. Townsend, Horsey, sent four seedling *Clematises*. Lady Georgina Fuller was the best, a large pale lilac flower, very similar to *Clematis lanuginosa*, for which it was taken; *Souvenir de Cardinal Wiseman*, dark purple flowers; Rev. Canon Oakley, paler in colour; and *C. Hollandii*. These were deficient in form, and not equal to the hybrids lately sent out. He also sent *Thujopsis dolabrata variegata*—this plant was awarded the silver Banksian medal in 1861; and *Convolvulus variegata*, an old and well-known plant. Mr. Veitch exhibited another of Mr. Dominy's hybrid *Orchids*, *Cattleya quinquecolor*; the parents were *C. Acklandiae* and *Forbesii*; a very handsome variety. It was awarded a first-class certificate. Mr. Mackintosh sent *Solanum vesum*; a new out-of-door ornamental plant very useful—second-class certificate. Mr. Holland, gardener to R. W. Penke, Esq., sent seedling *Zonale Pelargonium*, a variegated form, not equal to the Countess of Warwick; *Asplenium trichomanes Harrovi*, a very beautiful dwarf-habited Fern—first-class certificate; *Cyclamen Peakianum*, a very useful plant, an evergreen, and continuing to produce its rosy pink flowers all the year through; one of the plants exhibited was brought before the Committee three years ago, and has continued in flower ever since—first-class certificate.

Mr. Wills, gardener to Sir P. De Grey Egerton, Bart., sent *Mimulus cupreus* improved, but the improvement was not discovered by the Committee. The Rev. W. H. Girdlestone, Ryde, Isle of Wight, sent *Athyrium Filix-femina fissidens irregulare*, a variety discovered last year in the Highlands, a very distinct and beautiful Fern—first-class certificate. Mr. Batley, Rugby, contributed twelve seedling *Verbenas*, some of them pretty flowers, but not distinct or new. Mr. Fleming, Cliveden, sent out specimens of several very beautiful seedling *Zonale Pelargoniums*, *Nosegays* and others. It was requested that these should be seen again; when in better condition some of them will take a good position. Mr. Wm. Paul, Waltham Cross, sent *Zonale Pelargoniums (Nosegays)*, *Duchess*, light scarlet, dwarf, compact habit, large truss, which was awarded a first-class certificate; Mrs. Wm. Paul, not a *Nosegay*, pale rose, good truss, but not equal to *Beante de Surennes*; also, *Indian Yellow Nosegay*, distinct in colour, very useful—first-class certificate; also, *Donald Beaton*, too coarse for a *Nosegay*, and not possessing the good qualities of the other section of *Zonales*; and *Nosegay Waltham Seedling*. Mr. W. Paul also sent four boxes of cut *Roses*, consisting chiefly of his own seedlings, which have all been noticed before. Lord Macanday appears to be the best, but this *Rose* too much resembles *Charles Lefebvre*, they are both very fine *Roses*. Mr. Eyles sent from the Society's Gardens, a seedling *Gladiolus*, collected by Mr. Cooper; also a very small *Lilium*, from seed, from Dr. Regel, and a cut specimen of *Amaryllis reticulata*.

**FRUIT COMMITTEE.**—Mr. John Lee, in the chair. Mr. Tillery, of Welbeck, sent a tray of magnificent British Queen *Strawberries*, the last of the forced *Strawberries* of the season. They were the admiration of the Committee, and of all who saw them, both for their splendid appearance and their rich flavour, which was, indeed, that of a Pine. Mr. John Wills, gardener to Sir Philip M. De Grey Egerton, Bart., Oulton Park, sent a seedling *Melon*, which the Committee named *Oulton Park Hybrid*. It is of medium size, round, and with a salmon-coloured flesh, not quite a scarlet flesh. The flesh is wonderfully tender and melting, and very rich in flavour. This was considered a great acquisition, and received a first-class certificate. Mr. Thomas Ingram, of Frognore, sent a seedling *Cherry*, called *Frognore Early Bigarreau*. It is of large size, almost white where shaded, and with a brilliant crimson cheek where exposed to the sun. The flesh is remarkably tender and richly flavoured. This also received a first-class certificate. Mr. Cuthush, of Highgate, sent a branch of a seedling *Strawberry*, remarkable for its lateness, the fruit being not

more than the size of peas, while the *Prince of Wales* was fully ripe. Mr. Cuthush intimated his intention of bringing it forward when ripe at a subsequent meeting.

**SCIENTIFIC MEETING.** Lord Henry Gordon Lennox, M.P., in the chair.—The Chairman announced that J. M. Strachan, Esq., had made a present of a long list of valuable books for the library, which the Society was trying to collect, and added that further donations would be very acceptable. A bequest of books had likewise been made by one whose name commanded their respect and esteem, Sir Joseph Paxton, who had stood by the Society through good report, and, it might almost be said, through evil report, and he the Chairman asked the meeting to express in their vote of thanks to Lady Paxton, the deep regret which they felt for the loss which she and the Society had sustained. The vote having been unanimously passed, the Rev. Mr. Dix, and Mr. G. F. Wilson, the Chairmen of the Floral and Fruit Committees, read over the list of awards, and briefly commented on some of the objects exhibited.

Mr. Bateman, in the unavoidable absence of the Rev. Mr. Berkeley, offered some observations on the plants exhibited. Among those which came under notice were *Clematises*, especially those raised by Messrs. Jackman, of Woking, offering in the flowers purplish metallic tints like those of some *Pommes*, and being quite a new race, and the best for out-door purposes. A plant of *Jackmanni* on a south wall in his own garden in North Staffordshire, was growing vigorously, and he had no doubt would soon cover the wall, which was 6 feet high, with an indefinite number of flowers, quite as fine as those exhibited. Between Messrs. Jackman's varieties and those from another exhibitor, there was no discoverable difference. *Clematis lanuginosa*, another hardy kind, would have a fine effect when planted along with *Jackmanni*, so as to combine the blue of the former with the deep purple tints of the latter. A *Viburnum* discovered by Mr. Fortune was stated to be perfectly distinct from the common *Snowball Tree (Viburnum opulus)*, the leaves being entire and the flowers of a purer white. It was found to be perfectly hardy in the climate of North Staffordshire, but would, doubtless, be finer in more favoured localities. Mr. Bateman next introduced to the meeting specimens of purple and golden foliage. The purple foliage was that of three hardy trees, the *Purple Nut*, the *Purple Beech*, and the *Black Maple*, which, he said, deserved to be well known. It was introduced by some foreign nurseryman from Japan, and has small, cut, reddish purple leaves, transparent when seen with their proper background the sun. Contrasting the richer tints with light ones, what could be better than *Golden Yew*? Other plants offering such tints were the *Golden Holly*, *Golden Ivy*, *Lonicera aureo-reticulata*, and one of the most effective of all, the *Golden Bramble*. The variegated *Acer negundo*, and many more, might be employed, and these, he it remembered, were not hothouse plants, but hardy trees, which all might enjoy. Doubtless, if attention were turned in that direction, there would be no lack of suitable materials. Mr. Bateman then pointed out *Kalmias* as suitable plants for enduring the heated atmosphere of crowded rooms at this season, and related an anecdote of Linnaeus being cured of an attack of the gout on the return of his pupil Kalm, after whom the genus was named, with a rich collection of *Kalmias*, and so-called American plants. Attention was then directed to a singular plant, named by Professor Reichenbach, *Luisia Psyche*, having the flowers close to the stems, and presenting a striking similarity to some insects. It was mentioned because the genus had been said to consist of none but uninteresting plants. Mr. Bateman exhibiting a *Trichopha*, which he had bought at one of Stevens's sales, and stated it had been named by Professor Reichenbach *T. turralba*, being found at the foot of a high mountain capped with snow, so as to resemble a white tower; but since he (Mr. Bateman) had come into the room he had seen another and better variety of the same *Trichopha*, shown by Mr. Williams, called *picta*, under which name it had been figured in "*L'Illustration Horticole*," by M. Lemaire. A summer-flowering variety of *Lycaste Skinneri*, exhibited by Mr. Veitch, was stated to have smaller and neater flowers than that commonly cultivated, and *Govenia Eliacea* (?) was pointed out as being useful for bouquets. In reference to *Dendrobium Pierardii*, which was exhibited by Mr. Stone, gardener to Mr. Day, Mr. Bateman remarked that though it had been known for fifty years, it still held its ground, and no collection was complete without it.

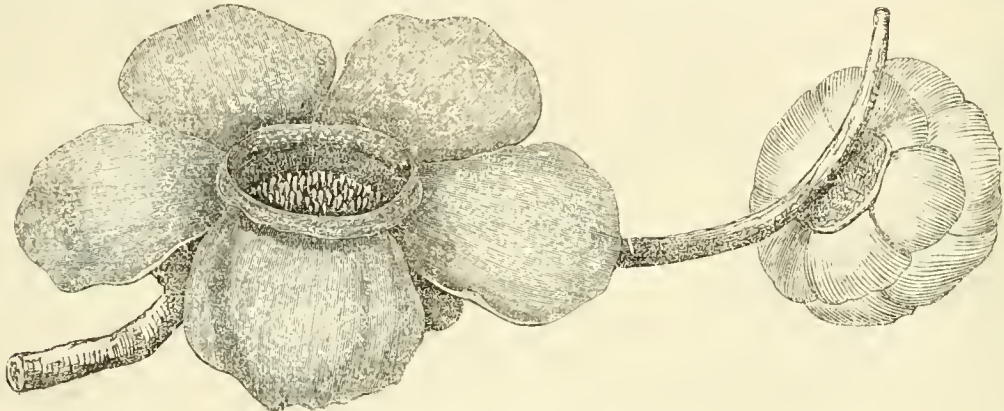
Major R. Trevor Clarke then offered some observations on the objects which he had brought to the meeting. Among them was a tall stem of *Lilium testaceum*, otherwise excelsum, from his garden in Northamptonshire, where he had cultivated it for years as a perfectly hardy plant, hardier than the common *Lily*. It had the unjust reputation of being somewhat tender. There was also a specimen of a climbing parasitical *Aroid* of the tropics, of which he did not recollect the trivial name, but the plant was figured by Dr. Wallich. For its generic name the choice lay between *Philodendron*, *Scindapsus*, *Pothos*, and *Monstera*. Its curious ripe fruits were on the table, and were said to be eatable, particularly that of the larger sort, called *deliciosa*, and to be convertible into a cooling drink. It had an ancient jungle-like tropical smell, and would probably give to cream ice a sensational flavour. The species now exhibited had a quality which would prevent it from being a practicable fruit for European palates, being filled with the same irritating spicule which existed in the *hep* of the *Briar*. He had also brought two inconspicuous objects—a shabby-looking garden *Stock*, and a spike of *Gladiolus* in a bottle, with its three poor



terminal flowers left blooming alone. The one was a seedling from a curious old plant, *Mathiola fenestralis*, crossed with the common garden Stock, *M. incana*, but it had not yet flowered; the other was the produce of one of the handsome rose-coloured *Gladioli*, crossed with the brilliant scarlet African species, *Gladiolus cardinalis*. It was interesting in this case to be able to confirm an observation made by the late Dean of Manchester, to the effect that the splendid colours of cardinals were not fully transmitted to the offspring, which the Dean attributed to the interbreeding having taken place in a cooler climate. The influence of cardinals, however, had produced a favourable effect in the present instance. The seedlings appeared to be early summer flowers, with the large and handsome habit of the autumnals. The two objects in question were authentic hybrids between two known plants, and he (Major Clarke) urged his horticultural brethren to lose no opportunity of bringing such instances to the Tuesday meetings. No person who had not really worked at scientific subjects could have a notion how valuable such contributions were—valuable because they were facts. A cross which might seem comparatively unimportant, being authentic, might supply a link in the chain of the evidences in an important investigation. "I call upon you," said Major Clarke, "to bring to these meetings objects of scientific interest of every kind, whether the results of individual experiment, or gleanings from hill or valley, river or forest, illustrations of nature's wild and wondrous changes. Such objects are too rarely seen on the tables of the Horticultural Society. Why is this? I believe because the horticultural mind, improved as it is in the present day, has not been sufficiently turned in this direction. In the early part of the season the observation was made by my friend, Mr. Bateman, that there was a lack of horticulturists at the present day. Now, this remark was, I believe, utterly misunderstood by some of his auditors or readers. We have clever gardeners, both in the nursery profession, and in the gardens of our country gentlemen, so clever that no country on the face of the earth can find their equal; but the man who will devote time and

money during a lifetime to legitimate horticultural experiment, both within and without this Society, who will from time to time take the trouble to produce his results in this room, who will initiate and perfect revolutions in our art, who will raise generation after generation of the fruits of the earth, season by season, improving and improving—this man will have deserved well of his fellows. These are the men alluded to by my friend, Mr. Bateman, and I believe with him that they are rare. But such men are rising, must be rising, in this almost over-intellectual age."

Mr. Bateman prefaced his lecture on *Rafflesia Arnoldi*, by remarking that when any one gave a lecture, or put his name to a paper read before any learned society, it was generally supposed that there was some fresh information to communicate, or progress to report, but he had nothing to add to what had been previously known; his object was simply to recall attention to what was the wonder of botanists—a plant of which an account was published in the "Transactions" of the Linnean Society, in 1820, and which was called *Rafflesia Arnoldi*. The generic name was given in compliment to Sir Stamford Raffles, and the specific name was in honour of its discoverer. Dr. Arnold, who was attached to Sir Stamford Raffles's mission to Sumatra, and who, about a fortnight after its discovery, fell a victim to fever caught in the woods where it grew. The biographer of this plant, the celebrated Brown, who wrote an account of it in the "Linnean Transactions," had also passed away. It appears that after having resided awhile in Sumatra, Dr. Arnold had ventured some way into the woods, when one of the Malay servants came running to him with wonder in his eyes, and said, "Come with me, Sir, come, a flower, very large, beautiful! wonderful!" He immediately went with the man about 100 yards into the jungle. The rest of the party hastened on, and here, growing apparently on a stem, was a flower a yard across. The whole flower was of very thick substance, the petals and nectary being in but few places less than a quarter of an inch thick, and in some places three-quarters of an inch; the substance of



*Rafflesia Arnoldi* with bud, growing on the stem of a *Cissus*.

it was very succulent. When Dr. Arnold first saw it, a swarm of flies was hovering over the mouth of the nectary, and apparently laying their eggs in the substance of it. It had precisely the smell of tainted beef. The centre of the nectarium gave rise to a large pistil, at the top of which were about twenty processes, somewhat curved and sharp at the end, resembling a cow's horn. Now for the dimensions, which are the most astonishing part of the flower. It measured a full yard across; the petals which were sub-rotund, being 12 inches from the base to the apex, and it being about a foot from the insertion of the one petal to the opposite one. The nectarium was estimated to hold twelve pints, and the weight was about 15 lbs. In order to ensure the size being accurately taken, four large sheets of paper were pinned together, and cut to the precise size of the flower. The soil where it was found was very rich, and covered with the excrements of animals. A guide from the interior of the country informed Dr. Arnold that such flowers were rare, but that he had seen several, and that the natives called them *Kribui*. What was this wonderful plant? Was it a fungus or an ordinary flowering plant? Brown with his usual sagacity decided that it was not a fungus but a true root parasite; and Mr. Bateman then explained at some length the distinction between parasites and epiphytes. Dr. Arnold had thought that the stem on which the flower was produced, was the root or stem of the *Rafflesia*, but it was the stem of a *Cissus* or Vine which wound round the trunk of a tropical tree. According to Brown, it takes three months from the first appearance of the bud to the full expansion of the flower, and the latter appears but once a-year, at the conclusion of the rainy season. The plant "has no stem of its own, but is parasitic on the roots and stems of a ligneous species of *Cissus* where it appears to take its origin in some crack or hollow of the stem, and soon shows itself in the form of a round knob," at first like an egg, then resembling a Drumhead Cabbage, and finally becoming a flower such as represented and described. It was not enough, added Mr. Bateman, to see a flower

represented in that room, but it was an object of natural ambition to have the plant. Mr. Loudon, when he drew a plan for the Birmingham Botanic Garden, had a tropical-house in the middle of the garden in which he hoped *Rafflesia Arnoldi* would succeed, but thirty years had elapsed and it was not yet in the country, though it ought to be in the stoves of Kew. He had no doubt it would be flowered in this country, but whether such a result would be obtained in the lifetime of the present generation of horticulturists he could not venture to say, unless the Chairman would use his parliamentary influence to induce the Government to take some steps in the matter. It appeared from an article in a Belgian periodical, that *Rafflesia* had been flowered in Java. The article stated that the *Rafflesia Arnoldi* "is parasitic on the roots of certain species of *Cissus* in the isles near the Sunda Strait, especially those of *Cissus scariosa*. M. Teysmann has tried, in the garden of Buitenzorg, in the isle of Java, to sow the plant which produces these gigantic flowers on the roots of *Cissus*, after having made an incision to divide the bark. The experiment has been perfectly successful, and at the end of eighteen months, M. Teysmann has had the satisfaction of seeing many flower-buds of *Rafflesia* burst from the roots, whose size varied from that of a Pea to that of a middle-sized Apple. From the observations which the Dutch gardener has had an opportunity of making on spontaneous *Rafflesia*, these buds will require a year or more before expanding the flowers, which are frequently not less than a metre in diameter. It has also established this singular fact, that the parasites spring some distance above or below the point at which the seeds were inserted. We may then hope to obtain in a cultivated state this remarkable vegetable." Mr. Bateman concluded by urging all who had friends in Java, to take steps to send home this remarkable plant; and moved a vote of thanks to the Chairman, who in returning thanks expressed the gratification which he felt in attending the Society's meetings whenever it was possible for him to do so.



## THE MODERN PEACH-PRUNER.—No. 12.

## LONG PRUNING.

THERE are various methods of pruning the Peach which can be classed under the head of "long;" but it is unnecessary here to illustrate more than one, which may be taken as a good specimen of this method. It is not more complicated in practice than the others, which are founded on the annual supply of young branches.

In this method the shoots spring from spurs which are calculated to last several years, and which are renewed whenever a new shoot springs conveniently from the base of the spur. A good succession of young wood is obtainable in this way.

All modern experience tends to show that systems founded on any considerable annual cutting-out of branches, however small these branches, must end in causing disease in the Peach tree. There is not, in reality, any good reason for this dangerous practice, which has already caused so much loss; far

from this, the day seems at hand when leading branches will not be shortened at all, and the chief pruning of the tree will be effected by the summer-stopping of the shoots, allowing a comparatively small amount of regulation for the winter season.

When these ideas are fully carried out, the difficulty of Peach pruning will become small, and theory and practice will agree more fully together.

It is necessary now to go back a little, and remember that our young tree is supposed to have made a certain growth during the summer next after its being planted. Many pruners, at the winter season, shorten this growth made by the leading branches by one-third; the reason they give is, that the lowest third part of each branch frequently fails to develop its buds. This is, however, but a visionary fear, if the roots do their duty.

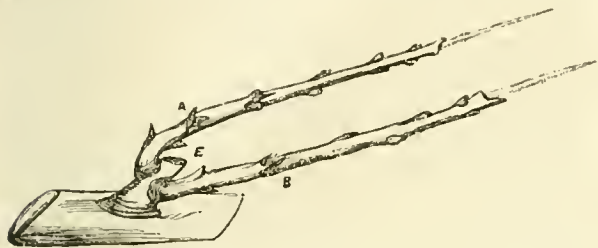


Fig. 11.—Third Summer Pruning.

The next summer all the branches will extend freely, and the buds upon them will begin to develop themselves. The buds situated on the lowest third portion of each leading branch not receiving, especially if placed on the under side, much sap, will generally not extend much, and if the season be very favourable, some will become converted into cluster-spurs (class 5). These must, therefore, be retained untouched. Their character is discernible by May. Should they extend more freely they will pass out of class 5, and become rather slender shoots, and should not be stopped at all, not being in a position to become gross shoots (class 4). The buds situated on the central third portion of each branch will extend freely, and be

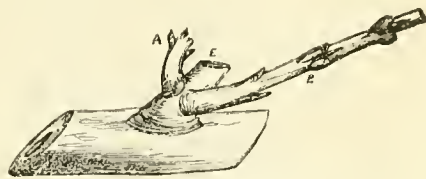


Fig. 12.—Winter Pruning.

the principal fruit-bearers of classes 2 and 3. They should be stopped at 12 inches as soon as they have made 15 inches of growth, and be lightly tied-in during the season of growth, at regular intervals, and at nearly the same angle as the branch. The buds situated on the upper third portion of the branch should be treated in the same manner; and should any exhibit the appearance of becoming gross shoots, of class 4, they should be cut down at once to two eyes, from which one new shoot is to be selected (the best-placed, and the weakest) to fill up the vacant place. This will be a shoot of a valueless character, long between the joints, and of class 1; but it cannot be avoided.

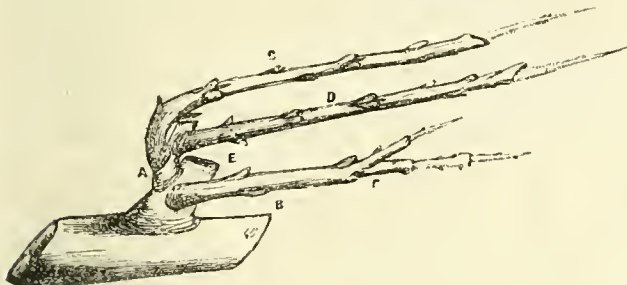


Fig. 13.—Fourth Summer Pruning.

The extension, or new growth, of each leading branch must be allowed to develop freely. Care must be taken to guide these branches in the proper direction, by means of light rods, and none of them should ever be lowered into the place it is destined eventually to fill, until it be well constituted, and in good balance with the corresponding branch of the other side. This is done by raising or depressing, according to circumstances. As no fruit is expected at this stage, blossom-buds may be rubbed off. Should any of the wood-buds be seen to be double, and to put forth two shoots, some little discernment may here be required to select the proper one, and to do so at the right time. Passing over the shoots of the lowest third of each branch, which are not troublesome, of those placed higher up the shoots nearest to the wall must be selected, and the outer ones removed, whether on the upper or lower sides of the branch. But, on the upper third portion, which receives abundant sap, all the weaker shoots should be selected for fruit-bearers, no matter where placed.

At the winter pruning of this the second year, should any cluster-spurs appear, one or two may be selected to bear the third season's fruit—that is, if it be so desired, because the

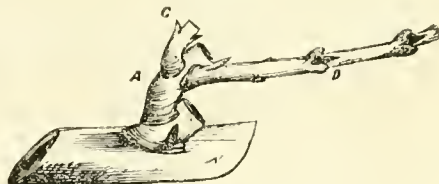


Fig. 14.—Fourth Winter Pruning.

tree is yet very young to bear. All the other shoots should now be cut back to two good eyes. The leading branches in this style of pruning are now shortened by, say, one-fifth. To shorten more would be to throw the tree into inconveniently long lateral growth, requiring much interval between the branches. Of course, this interval varies with the style of pruning. Twenty inches is considered a moderate interval.

At the spring of the ensuing, or third season, the tree will have acquired certain proportions and form, and the shoots shortened last winter to two eyes will each speedily develop two new shoots, which shoots must now be carefully attended to, as destined to bear a moderate crop of fruit in the fourth season. We come thus to consider the branches and shoots as they appear at the third season.

The two shoots during this summer will gradually assume the appearance indicated in *fig. 11*. They are there named respectively *a* and *b*, as being the two original shoots proceeding from the spur *e*. If we keep to this nomenclature it will avoid confusion. No doubt the term "spur" is the most appropriate here, and has been received as such before by reviewers of cordon training. Spur is the correct rendering of the



synonymous continental word, and it certainly is produced by manipulation. Both shoots will be allowed to extend to 15 inches, and be stopped back to about 12 inches. At Montreuil about 14 inches is the general rule.

Many pruners abjure summer stopping altogether, which is a great error, and the cause of overgrowth and weakness in the tree. The winter shortening is immense and needless, because it is well known that the buds of the lower portion of each shoot can be readily distinguished in June, and a good guess then made as to their quality. If the lower buds be then prominent, and well established, what need can there be for any superfluous length of shoot beyond them? But, let us suppose a and b to make a good summer growth, and to have been stopped at 12 inches, as seen in *fig. 11*, and then to have made an additional second growth, which is only of use so far as it occupies the superabundant sap. During the season they will have been secured to the wall, avoiding enclosing any leaves, at the proper angle, and if weak it is proper to raise them somewhat more. At the winter pruning, when the leaves have dropped, they will look much like *fig. 11*. *e* Represents the original shoot, now called a spur.

It will now be proper to consider which shoot should be preserved long for fruit, and which cut back for a replacing-shoot. In *fig. 12* it is supposed that b has been found, by reason of its groups of triple buds, to be the best, and therefore it is cut down to above the second group of triple buds. Many pruners, however, would have left it half as long again. Some retain thereby space for a couple of fruit. This may be done when there is generally little fruit on the tree, or if the tree have few shoots. A is cut down to two good wood-buds for a succession; the long shoot b is attached closely to the wall at rather an acute angle with the branch. The spur *e* continues to preserve its original form. These simple operations complete the year's work; great care having been taken, by syringing copiously, &c., the leaves during the summer, so as to keep down insects and favour growth. Practical Peach-pruners, such as Mr. Radcliffe, continually tell us this.

At the fourth summer, in *fig. 13* we see that the original shoots a and b are still the basis of the work in hand. A From its two wood-buds puts forth two summer shoots c and d, which are likewise stopped at 12 inches, and make a second growth. b Now bears a fruit at r, and the wood-bud accompanying the fruit extends a little, and is pinched in at three or four leaves. The terminal group sends forth another shoot from its central bud, and this is also pinched to three leaves. These two small shoots are amply sufficient to attract sap to the fruit below them, and this is their use. It will be observed that the fruit grows in this case on the lowest triple group, which is always the best to select. Should the shoot b have been laid in at much greater length than here shown, and dis-budding the intervening buds be practised (as so many do, some leaving only the bud accompanying the fruit, and another at the base to succeed), then it can only be considered an unnatural and useless custom. Moreover, some of the very best practical pruners agree that it is not proper to depend on the same shoot to bear fruit and to produce a replacing-shoot for the next season. It cannot be depended on, and requires far more attention in bending the shoot at just the proper time than the present plan. If this bending down of the shoot is omitted it will be blind the following year. The new shoots c and d are treated as before described, and if neatly secured to the wall will not present any confused or crowded appearance.

At the fourth winter pruning either of the shoots c and d are selected according to their character. Supposing d, the lower shoot, to be selected as the fruit-bearer, it is cut above the second or third group of buds as before; c, the upper shoot, then becomes that destined to produce the two new succession-shoots, and is accordingly cut back to two wood-buds. The upper portion of the original spur *e*, together with the whole of the shoot b, are now cut away as smoothly as possible, leaving the whole as it appears in *fig. 14*. By this time one or more buds will have appeared at the base of original spur *e*, and these if developed will form the basis of future work. Should several appear, one at least should be closely pinched in, so as to form a cluster-spur, and thereby increase the chance of fruit.

There are several other ways of managing the shoots, but none better than this one, nor in reality more simple. Some manage to work with alternate shoots. Others dispense even with this, and are content with single ones. Much overlying of shoot and branch and considerable winter amputations are

the consequences. Long pruning on the whole wastes the vitality of the tree by producing much needless wood. All recent experience points to a modification of this system, which shall form my next subject.—T. BRÉHAUT, *Richmond House, Guernsey*.

## THE LATE DUKE OF DEVONSHIRE AND SIR JOSEPH PAXTON.

ABOUT twenty years ago, by the direction of the late Duke of Devonshire, I copied the following from the original in his Grace's handwriting:—

"Joseph Paxton was born the 3rd of August, 1803. I made his acquaintance at the Horticultural Society's Garden at Chiswick, where he was placed in 1823. He was chiefly employed then in training the creepers and newly introduced plants on the walls there, which first excited my attention; and being in want of a gardener at Chatsworth, I asked Mr. Sabine, who was then at the head of the establishment, whether he thought that young man would do? He said, 'Young and untried,' but spoke so favourably that I had no doubt.

"The young man had made a large lake in 1822 at Sir Gregory Page Turner's place near Woburn. He came to Chatsworth in 1826. You shall have it in his own words: 'I left London by the Comet coach for Chesterfield, and arrived at Chatsworth at half-past four o'clock in the morning of the 9th of May, 1826. As no person was to be seen at that early hour I got over the greenhouse gate by the old covered way, explored the pleasure-grounds, and looked round the outside of the house. I then went down to the kitchen garden, scaled the outside wall, and saw the whole of the place, set the men to work there at six o'clock; then returned to Chatsworth, and got Thomas Weldon to play me the waterworks, and afterwards went to breakfast with poor dear Mrs. Gregory and her niece: the latter fell in love with me, and I with her, and thus completed my first morning's work, at Chatsworth, before nine o'clock.'

"He married Miss Sarah Bown in 1827. In a very short time a great change appeared in pleasure-ground and garden: vegetables of which there had been none, fruit in perfection, and flowers. Twelve men with brooms in their hands on the lawn began to sweep, the labourers to work with activity. The kitchen garden was so low and exposed to floods from the river, that I supposed the first wish of the new gardener would be to remove it to some other place, but he made it answer. In 1829 the management of the woods was entrusted to him, and gradually they were rescued from a prospect of destruction. Not till 1832 did I take to caring for my plants in earnest. The old greenhouse was converted into a stove, the greenhouse at the gardens was built, the Arboretum was invented and formed. Then started up Orchidaceæ, and three successive houses were built to receive the increasing numbers.

"In 1835 the intelligent gardener John Gibson was despatched to India to obtain the *Amherstia nobilis* and other treasures of the East. The colossal new Conservatory was invented and begun in 1836; the following year Baron Ludwig was so charmed with its conception, that he stripped his garden at the Cape of the rarest produce of Africa. Paxton had now been employed in the superintendence and formation of my roads: he made one tour with me to the West of England, and in 1838 contrived to accompany me for an entire year abroad, in which time, having gone through Switzerland and Italy, he trod in Greece, Turkey, Asia Minor, Malta, Spain, and Portugal. In absence he managed that no progress should be checked at home. A great calamity ruined the expedition he had set on foot to California; the unfortunate Wallace and Banks, young gardeners from Chatsworth, having been drowned in Columbia river. He went with me in 1840 to Lismore, and in that year the Conservatory was finished. The village of Edensor was new-modelled and rebuilt between 1839 and 1841, and the crowning works have been the fountains and the rock-garden."

After I had copied what precedes, I inquired of the Duke if he knew the amount of wages Paxton was receiving from the Horticultural Society in 1823? the answer was, "Only 18s. a-week, as I was informed by Mr. Sabine." As I knew that the Duke of Devonshire (by whom I had been most kindly aided for the last eighteen years) would not be offended by the question, I asked what wages he had himself given the "young and untried" gardener in the first instance? and his reply was, "I think 25s. a-week, and a cottage." Of course, his Grace afterwards rapidly advanced Paxton's wages; and eight or ten



years subsequently, the young labourer of 18s. a-week, and the new gardener of 25s. a-week, was often seen dining at the Duke's table.—(J. PAYNE COLLIER, in *Notes and Queries*.)

### NEW EARLY PEAS.

On the 7th of February I sowed the following varieties:—Dickson's First and Best Early, Sutton's Ringleader, Dillistone's Early Prolific, Sangster's No. 1, Daniel O'Rourke, and Maclean's Princess Royal, and on the following day Dickson's Early Favourite, Wonderful, and Maclean's Dwarf Prolific. In consequence of a long period of severe weather which set in just after they were sown, it was at least seven weeks before any of them appeared above ground, and then in the following order:—1st, Sutton's Ringleader, and Carter's First Crop; 2nd, Dickson's First and Best, and Dillistone's Early Prolific; 3rd, Daniel O'Rourke; 4th, Sangster's No. 1; the other three kinds coming through together a little after the last named. The time occupied in the Peas appearing above ground was from ten to twelve days. On the 5th of May, I noted that Carter's First Crop, and Sutton's Ringleader, were in full bloom; Dickson's First and Best Early was four days later; while Sangster's No. 1, and Daniel O'Rourke, bloomed together about two days later than Dickson's. Dillistone's Early, the seed of which was had direct from Mr. Dillistone, of Sibthorpe, started off into a strong growth just as it was coming into bloom, a very heavy rain having fallen a few days previously. It reached the height of between 5 and 6 feet, came into bearing the last of all the early kinds, and produced a good crop, but the pods were rather small, and as I grew it, did not seem to present any special claims to favour.

On the 1st of June, I gathered a good dish of Peas, the majority from Carter's First Crop, and Sutton's Ringleader, and some from Dickson's First and Best Early; from the last, two days later, I was enabled to gather an abundant dish. Some time after the Peas had been sown, I was informed by Messrs. F. and A. Dickson & Sons, of Chester, that the seed of their First and Best Early Pea, was of the crop of 1863; in fact, that all they sent out, in the past spring, was of that harvest. I am, therefore, of opinion, that when new seed of the First and Best Pea can be sown against Carter's and Sutton's, it will be found quite as early, and a much better cropper, as it really is. I fully believe that the First Crop, and Ringleader, are identical in every respect, and this is not only my own opinion, but also that of all others who saw them, and it was noticeable that whereas Dickson's Pea was entirely free from "rogues," or "stragglers," there was a number of them amongst the other two varieties. The three were grown in a good deep loam, well manured last year for Onions, the average height being from 2 to 2½ feet. Sangster's No. 1, and Daniel O'Rourke, were ready for gathering about a week later, and their good qualities are too well known to need comment here.

In succession to these came Dickson's Favourite, Princess Royal, Wonderful, and Maclean's Dwarf Prolific, all were in bearing at the same time. Dickson's Favourite is a well-known variety, an abundant bearer, with long well-filled pods. It will grow from 5 to 6 feet high. Princess Royal is a large, white, round, Marrow Pea, growing about 3½ feet in height, and an abundant cropper, having large pods filled with fine Peas of good flavour. Wonderful is similar to Princess Royal, excepting that it is a white wrinkled Marrow, and scarcely so robust a grower. Both of these are first-class Peas, and they deserve to rank A 1. in the seed catalogues. Maclean's Dwarf Prolific grows about 2½ feet high, is an abundant cropper, rather smaller in the pod than the other two, and not quite so hardy. I may mention, that I grew Maclean's Advancer last year, and that I have this season seen it growing in the garden of Sir W. Heathcote, Bart., M.P., at Hursley, Hants, and while I admit its claims as a very early wrinkled Marrow, yet I find, that in southern localities at least, it grows so dwarf, and crops so sparingly, that I do not think it can long hold its own.

I am also growing Veitch's Perfection, Yorkshire Hero, Hairs' Dwarf Mammoth, Prince of Wales, and Lord Raglan, but they are not yet sufficiently advanced to make notes of at present. I know from last year's trial that they are all excellent varieties.

I should like to recommend, as best dwarf Peas for succession, Dickson's "First and Best Early," Sangster's No. 1, Princess Royal, Wonderful, Veitch's Perfection, and Lord Raglan.—ALEX. DEAN, *Maybush, Shirley, Southampton*.

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

The weather during the past few days has in many parts of the country been particularly favourable for planting out the autumn and winter crops, which may have been delayed in consequence of the previous dry weather. *Beans*, some *Mazagans* may yet be put in, which will produce late in the season if the weather prove favourable. *Broccoli*, *Cape* and *Grange's* may now be planted where the early Peas have been removed; the main crops of the other sorts should be got in as early as possible. *Cabbage*, sow a little more seed, if the sowing we recommended last month has failed. *Chervil*, another sowing to be now made for succession. *Cucumbers*, put in a few cuttings or sow a little seed, so as to have a few plants to plant out for a succession till Christmas. Continue to pay every attention to those in frames; they must have a liberal supply of water twice a-week, and should be sprinkled every afternoon. *Endive*, continue to plant-out a few about once a-fortnight, to keep up a succession; another sowing should be made. *Dwarf Kidney Beans*, the last principal sowing should now be made; earth-up the advancing crops. *Leeks*, those sown in drills should be thinned to a foot apart in rich ground, the thinnings will do to plant out. *Parsley*, make a sowing, so as to have strong plants by the winter. *Peas*, earth-up and stick the advancing crops; a few more may be sown, which will come into bearing if the autumn is favourable. *Radishes*, make a sowing of the various sorts; the Turnip-rooted, however, are generally preferred at this season. *Vegetable Marrow*, these plants will require a liberal supply of water; stop the main shoots to cause them to throw out laterals. Immediately a crop is done with either remove it to the char-heap or dig it in, in either case sprinkle the ground with lime to destroy slugs.

#### FRUIT GARDEN.

Grape Vines against walls to have the young shoots trained from the lower part of the wall for bearing next year. See that *Peaches*, *Nectarines*, and *Apricots* are nailed, if not already done, as the wind is sometimes very strong about midsummer and makes sad havoc with the shoots. *Currants* and *Gooseberries* require all watery useless shoots to be thinned out. It is a good plan for keeping Red Currants till the latest period for tarts, &c., to select some of the best bushes on a dry day, and thin all the shoots from the fruit; drive a strong stake in the middle of the bush, and tie all the branches to it, then wrap one or two garden mats around it.

#### FLOWER GARDEN.

Remove suckers from *Roses*, and clear the stems of wild shoots. Strong shoots of *Chrysanthemums* may now be layered in pots to produce dwarf compact bushes. Those in pots may soon receive their final shift. *Ranunculuses* may be taken up as soon as the foliage has turned yellow; for should wet weather continue they might emit fresh fibres, and if taken up then they are likely to be worthless. Plants growing in baskets or vases should now have a final stirring at the roots before the surface is entirely covered with foliage, likewise put on a layer of moss to prevent excessive evaporation, and thus save some labour in watering, which they would otherwise frequently require, as they are generally elevated above the surrounding surface, and therefore more exposed to the sun's rays. Bear in mind that *Fuchsias* in vases should be attended to daily as regards watering, it is inattention to this that causes the bloom to drop, and in the course of time renders the plant unsightly. Remove all decayed flowers and seed-vessels from American plants. Now is a good time for layering *Rhododendrons*, *Belgian Azaleas*, &c., just as they are coming into full growth. Shrubs grown to embellish Italian and geometric flower gardens, terraces, &c., should now be cut into the figure they are to assume; in many cases wires will be necessary to keep the branches in their proper places at first, when afterwards the knife and shears will suffice to keep them in proper form. *Portugal Laurels*, *Cypresses*, *Arbor Vitæ*, *Yews*, *Bays*, and *tree Box* are the plants most commonly used for this purpose, and when cut into architectural figures are good accompaniments of the above style of gardening. They should, however be clipped in two or three times during the season to preserve correctly the desired outline.

#### GREENHOUSE AND CONSERVATORY.

While out-door flowers may soon be expected in abundance, nothing should be brought here but what is well grown and bloomed, nor should any plants be allowed to remain that are at all shabby, for it is a waste of means, and certainly betrays



bad management to occupy glass houses with plants of interest inferior to such as are plentiful in the open air. It is not desirable, however, to crowd the houses with flowering plants, the aim should rather be to have a moderate number of handsome specimens effectively arranged, which will yield more pleasure than a greater amount of floral display from plants of no individual merit. A thin arrangement of pot plants will also be advisable on account of the permanent occupants of the beds in the conservatory, which at this season should be allowed plenty of space in order to secure strong and well-ripened wood, without which they need not be expected to bloom finely. Use every means to keep down insects. Give clear weak liquid manure to young growing specimens, and report any that are intended to have another shift this season, so as to have the pots well filled with roots before winter. Maintain a moist growing atmosphere in the greenhouse, and syringe vigorously any plant at all infested with red spider.

#### STOVE.

Encourage backward plants of Orchids with plenty of heat and moisture while that can be done safely. See that plants on blocks and in baskets are properly supplied with moisture at the roots. To prevent any mistake in this matter carefully examine every plant at least once a-week, and immerse any found to be dry in tepid water until the material about the roots shall have become well soaked. Syringe lightly morning and evening, and sprinkle floors, &c., in order to keep the atmosphere thoroughly moist. Here a number of *Clerodendrons* and such like softwooded plants, will now be showing bloom, and with the late-blooming *Ixoras*, *Dipladenias*, *Eclites*, &c., this house will be very interesting for some time to come. Weak clear manure water should be used here once or twice a-week, as well to sprinkle the house as to water the plants.

#### PITS AND FRAMES.

Alpine plants in pots should now have a little attention. They should now be collected together; some will require division at the roots to increase the species. Many will require weeding and top-dressing, and others shifting into larger-sized pots; finally plunge the pots up to the rim in sand or finely sifted coal ashes. They should now be regularly syringed with clear water early in the morning and late every evening.—*W. KEANE.*

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

*Watering.*—Our chief work has been to render our little water as useful as possible, by applying it close to the roots, and either mulching or throwing dry soil over the moist surface as soon as possible. Mere surface watering, in such weather, is of very little benefit, except for newly-planted-out things, so as merely to refresh the foliage, as alluded to last week in the ornamental department. There have been signs of a refreshing rain, but as yet none has visited us; but on this morning of the 29th the barometer has fallen rapidly, and we hope that at last we shall have rain, which will greatly benefit all field and garden crops. In our stiffish, deep-stirred, moderately-enriched soil, the crops, especially those helped with mulching, are standing well; but in many cottagers' gardens the Beans are refusing to be more than bare stalks, and the Potatoes are ripening their haulm with but few tubers, and these refusing to swell to any size. Too many persons are slow to learn the advantage of surface-stirring in such weather, and deep stirring before planting. We lately saw some beds of vegetables and flowers with the surface cracked all over, and what was not cracked, pretty well as hard as iron; and the wonder was that, with almost constant evening sprinklings of water, the plants refused to grow. A good forking on the surface would have been better than all the drizzling from the water-pot. The watering, if given to reach the roots, would have been useful, and then, if the surface had been stirred to keep it in, the one watering would have been worth a dozen or a score of these drizzles on the surface, which merely encouraged roots to come to the surface, to be burned up by the next day's sun.

An old friend of ours is a great advocate of the sprinkling-overhead system, and wonders, though the plants seem refreshed by his kindly-meant process, that next day, if anything, they look the worse from it. As to getting our walking-stick into the ground, that was out of the question; we might as well have tried a plate of iron. Good stout arms would be needed to break it with a fork. No wonder that Cabbages and Cauliflowers

bolted, instead of laying a good foundation for good heads; no better plan could be devised for causing them to flower and seed early. As a rule mere surface watering, except for refreshing foliage, and chiefly of freshly-turned-out plants, is of little or no benefit, and often does harm even in well-stirred ground, because it breaks the line of conduction and evaporation, so that the roots are deprived of the moisture from beneath which they would otherwise receive. We have great faith in the moisture that is stored up in the earth, and which will be absorbed by the roots of plants, as it passes them, in proportion to the heat applied at the surface. The mere damping of the surface arrests, for a time—that is, until the surface is again dried—the line of communication between the moisture beneath and the sun and atmosphere above; hence it often happens that, after a slight shower in summer, which merely refreshes the foliage, and slightly damps the surface, if followed at once by a bright hot sun, the plants, as soon as the little sprinkling has evaporated, will seem to suffer more than before for a few hours, because, for a time, the roots have been deprived of their supply of moisture from beneath. Hence, also, the difference between natural and artificial watering. In the former case the whole atmosphere, with its clouds, seems as refreshing as a shower bath. In a bright sunny day the atmosphere, if we do not do anything in the way of mulching or surface-stirring to prevent it, will hasten to take away the moisture which we give. A dull or a drizzling day, or late in the evening, are, therefore the best times for watering. Sprinkling overhead in the sun, as alluded to last week, is merely an exceptional process, when, having secured enough of moisture at the roots, we keep down or lessen evaporation from the foliage until the plants become used to their new position. Plants in general would have been benefited by such foliage-sprinkling in these dry hot nights, where the amount of dew deposited would not have soiled a satin slipper in the early morn; but that sprinkling is a very different thing from thorough watering, and then letting well alone until your services are again required.

Among the uninitiated few things are less understood than watering, and the dribbling system is that which generally obtains. Let us take a *Fuchsia* plant in a pot as an illustration. We find the leaves and blooms unmistakably drooping, and, as the readiest way for averting disaster, we throw water with a fine syringe over the leaves and branches—a very good thing, it must be allowed, but then the remedy is a very temporary one. Finding this to be the case, we give a little water—enough to penetrate an inch or two below the surface—and that does a little more good. Keep on with this dribbling, and you might as well, or rather better, have grown your plant in a shallow saucer. The lower roots will die, in time, from having no moisture to feed on. Placing such a plant in a bucket, to be thoroughly soaked, would be the best means for insuring its safety, and then water it thoroughly when you do water. We are supposing the plant to be standing on a shelf or stage; but if you plunge the pot in a bed, or in the earth, the very plunging, though the plant be in a pot, makes it more independent of your care. The top-sprinkling, the surface-drizzling, would be ineffectual as to lasting effects as before, and would so far just deprive the roots of the moisture that would reach them from the bed or the earth; but then the roots, in self-defence, if permitted, would endeavour to look after themselves, by getting through the pot, and down into the earth, after the moisture. In such a dry summer as this the fields of Wheat often look extremely flourishing. Whence do the roots obtain their moisture? From great depths, for the surface is like driven dust. A mere drizzling on the surface would do more harm than good, as it would do no good to the roots, because it would not reach them, and, until evaporated, the raising of moisture from beneath would be arrested. On the same principle, plants thoroughly established, and with deep roots, will often do better without mulching than with it. Until we saw through these matters, one fact often surprised us. In a dry summer we have noticed how refreshed the fields looked after the foliage was even slightly washed with a passing shower; but if that happened in the morning, and the day proved sunny and windy afterwards, then, in the afternoon, the plants would hang their heads and look more distressed than before. The rain had done nothing for the roots, and the supply of moist vapour, by capillary attraction from beneath, was temporarily cut off. The balance was restored as the surface became dry. The shower, on the whole, did good, by cleaning, refreshing, and swelling out the stems and foliage; but it could not do what a soaking rain would do, that reached the roots. Let us



syringe and surface-water if we will, but we must not expect the results of a good watering that reaches every fibre of the rootlets. We think we have previously mentioned about a gardener being found fault with for watering his dry flower-beds in a dull drizzling day, when the barometer showed there was no likelihood of much rain. He ought rather to have been commended. Watering in hot sun should only be resorted to when it cannot be avoided. Unless care, by mulching and surface-stirring, is used, the moisture we give will soon rise as vapour to improve the general atmosphere: hence one advantage of surface-stirring and of loose mulching, is that, whilst the great heat is excluded, the air, with its vapour, can enter.

Made arrangements for soon sowing the last Peas. Planted a good space of Dwarf Kidney Beans. Will make another sowing, and then will sow where protection can be given. We have thus frequently gathered up to November. Sowed the main crop of Endive and Lettuces for succession. We always look upon early Endive where there is plenty of Lettuce as something like waste. Though very pretty in the salad-bowl, we consider Endive as merely a substitute for, and not a competitor with a crisp Lettuce. We lately saw splendid specimens of Carter's and Sutton's Champion Lettuces, excellent where size is an object. The flavour also was very good. The London and Paris Cos are useful for small gardens. Planted out more Cauliflowers, shading them and Celery with tree branches. The bulk of winter stuff we must leave a little longer in hopes of having rain, as the plants are easier kept in the beds and in the rows where thickly pricked out. Regulated Cucumbers. Spawned Mushroom-bed in open shed, and could we spare the time, would make some fresh spawn as it now dries quickly, and the spawn would run but with little trouble. We have had as yet a fair supply in the house, which is a lean-to to the north, by syringing all the walls and floor, and giving air so as to promote coolness. Heat is the great enemy to Mushrooms in houses above ground in summer, and draughts of air do not suit them so well as an open shady shed. We have had them very good under the shade of Vegetable Marrows and Gourds, but the spawn should not be placed nearer than a yard from the main stem of the Gourd or Marrow plants. Sometimes when we have spawned a ridge used for such plants, the spawn injured the roots of the Marrow; but if placed near the outside it did no harm, and the large leaves kept the Mushrooms cool and also delicate in colour. All such fungi require rich organic matter to thrive in, otherwise the Mushroom will grow in any rich ground. A friend of ours had some fine gatherings last season on a north border. He placed the droppings from his pony about 4 inches thick on the ground just as he got them, put some bits of spawn in it about 9 inches apart, and covered with an inch of soil, beat it down, and covered with a sprinkling of litter to prevent rapid drying. He had plenty and to spare before the cold weather came. As fine a bed as ever we saw was in the corner of a stable. With a little covering the farmer had plenty all the winter and spring months.

#### FRUIT GARDEN.

Proceeded with watering Strawberries, stopping the shoots of fruit trees, regulating Melons, banking-up linings round frames with litter to prepare for a change in the weather, and attending to other things with watering, thinning, much as detailed in previous weeks. At length some red spider has appeared in the lean-to orchard-house, and as a preventive have daubed all open spaces on wall with a paint formed of soft soap and sulphur. The fumes of both when the sun shines are disliked by these insects. Out of doors the birds are troublesome, getting at fine Cherries under the closest netting, and a lesson may well be learned from the patient and persevering scrutiny they evince, to find the slightest break or hole in your defences; but, poor things, they are objects of pity this season. Many of the larger birds—as blackbirds and thrushes, are perfect skeletons from their inability to find worms, and grubs, and snails in this dry weather. The word "quinine," in second column, page 491 of the volume just concluded, should be "quassia."

#### ORNAMENTAL DEPARTMENT.

Without any watering the Roses on our stiff soil have been large and good. In lighter soils even with watering they have not been so good as usual. Gathered a great many when full blown, for drying for *pot pourri*. We question if the gathering system is not the most economical on fine lawns, as when they shed the flowers and there is the least wind the sweeping-up is endless. On this account alone we should incline to banish them

altogether from a nice-kept lawn, and place the Roses in a roseroy, or in front of a shrubbery where a few shed flowers would be of less consequence. To our eye nothing disfigures a lawn more than being dotted over with tree Roses with small mop-heads on the top of a walking-stick stem. Such tree Roses are only tolerable when they are trees—that is, when the head has a diameter of from 6 to 12 feet, and droops gracefully. Many pretty gardens are quite spoiled by these puny mop-heads rising out of the turf.

With the exception of a little filling-up when we thought the plants would be rather thin, finished all our bedding-out last week. All the earlier-planted will now pretty well look after themselves. The *Caleceolarias* are producing huge cauliflower-like heads of bloom, but where much exposed, as on raised beds, they are not making such growth for succession as we would like in this dry weather, and with the ability to give them none but a minimum of water.

*Mulching.*—For these and *Geraniums* not covering the ground, and indeed for things in general, and as the ground is warm enough for anything, we have proceeded to mulch to keep the ground cooler and moister about the roots. We are not well off for materials this season, and have been obliged to use it rougher this season. For the centre of large beds we have used half-rotten leaves from the Vine-border, breaking them well up with the points of a five-tined fork, until they are pretty well as loose and flossy as the hair that is prepared for hair mortar. Even then this would be tempting for the birds, if placed near the sides of the beds, as they would soon pick it over the lawn. They have little chance of doing it from the middle of the beds, in consequence of the thickness of the plants, and the twigs to keep them all right and safe from winds. The front of the beds and borders will be slightly mulched, as far as the material goes, with from half an inch to an inch thick of a mixture of leaf mould and old Mushroom dung, passed through a sieve with openings an inch wide. This makes a nice finish, and is a great help every way, rendering much watering unnecessary, and economising what is used, and, in raised beds, preventing the running of the soil when watering is resorted to; whilst, if rain comes, the nourishment in the material is washed down to the roots. A little soot and lime, in the outside mixture, would help to keep the bills of the birds from it. But for scarcity of the material we would have used this riddled mixture alone, for the sake of neatness, and for most of the beds in this dry weather. By promoting surface-rooting it also promotes free flowering, instead of extra luxuriance, which much manure dug into the beds is apt to do. Moss is also a capital mulching, and gives a nice ground colour, if kept green, until the leaves hide it; and so is the cocoa-nut fibre. Some of our amateur friends write of it to us in ecstasies, and ask why we do not commend it for general use for this mulching process. Well, we agree in much of their enthusiasm; but then the expense of so mulching a large garden!

*Lawns.*—In such weather, the less mowing and grass-cutting with the machine the better, so long as neatness is secured. A deep cut with the mowing machine is sure to promote brownness and a rusty appearance. If the lawn looks flossy and a little rough, and pieces are long, especially round the sides of beds, a man who takes a pride in his work will so hold and regulate the machine as to knife the long points, and will soon, with a 14 or 16-inch machine, go over a large space of ground. When a few Bents, Plantains, and Daisies appear, the daisy-knife is the tool to remove them with, and the sun will make short work in sending them out of sight. The beautiful low yellow *Lotus corniculatus*, which would make a capital yellow bed, has been rather prominent on the lawn here this year, and the extreme dryness is also giving us lots of white flowers of the Dutch Clover; and the yellow and the white are apt to stud the green of the grass, and yet be so low that neither knife nor scythe can get hold of them; but as soon as they rise the least above the level of the short grass the knife soon settles them. A visitor told us, some time ago, that in a public garden he saw seven men toiling away with daisy-rakes on a lawn, and that they did not do half as much work as one man was doing easily with the daisy-knife. As yet our lawns are pretty green, but a good cutting with the machine, without rain, would make them brown enough.

*Florists' Flowers.*—*Amrieulas*, *Polyanthuses*, and *Pansies* will now do best in a shady place. The last two may be divided and planted out or potted. *Pansies*, to be kept good, should have a shady place, plenty of rich top-dressing, and abundance of water to keep them moist and cool. Cuttings of favourite kinds may now be inserted in sandy soil in a shady place;



seeds be collected, and those used for flower-beds in spring be divided and grown on in beds for next season. Daisies we will divide as we get time. Pinks and Carnations need supporting, and green fly should be brushed off if it make its appearance. A fine brush and weak quassia water are better than using the fingers and thumb. Pricked out seedling Cinerarias. Planted out a lot of these done flowering to yield suckers. Put a few branches over them. Herbaceous Calceolarias done blooming should be placed out in a shady place to form suckers and shoots. One of these shoots rooted or struck as a cutting in the autumn will make a better plant than could be made of the old plant by any coddling whatever. These are invaluable for display chiefly in April and May. After that the air is too dry and hot except they are kept in a cool place. Tulips, cut off flower-stems, and the roots of fine ones should be taken up as soon as the leaves decay. Lachenalias and many early bulbs should be now in a state of rest, and may remain in the reversed pots, or be taken out and be placed in saucers covered with dry sand.

Went on potting stove and greenhouse plants. Cockscombs, especially feathered ones which promise to be fine, and Balsams, giving the latter mostly rotten dung and loam in equal proportions. Some of the Balsams had a little fly, and the tops of the plants were, therefore, dipped before shifting into a liquid of soft soap and quassia water, but not so strong as that recommended by Mr. Rivers. Even in rather small pots they promise to be strong and fine. The pots are plunged but the heads receive plenty of air. All our large Chrysanthemums are plunged to save water chiefly, but the plants are more easily kept in a uniform comfortable state. Dipped baskets of Stanhopes in manure water, and kept all plant-houses in a moist state by damping the floors and stages. Clear weak manure water suits almost every thing now, if the drainage is all right. —R. F.

### COVENT GARDEN MARKET.—JULY 1.

The market is now well supplied with everything. The late warm weather having driven all kinds of fruit forward, prices have consequently fallen considerably. Some good Apricots and Plums are now arriving from the continent. The first cargo of West Indian Pines has arrived, but the fruit is not very good.

#### FRUIT.

	s.	d.	a.	d.		s.	d.	a.	d.	
Apples.....	1	0	4	0	Melons.....	each	3	0	8	0
Apricots.....	pot	0	0	0	Mulberries....	punnet	0	0	0	0
Cherries.....	lb.	0	9	1	Nectarines....	doz.	12	0	24	0
Chestnuts.....	bush.	0	0	0	Oranges.....	100	6	0	14	0
Currants, Red 1/2 sieve	4	0	6	0	Peaches.....	doz.	18	0	36	0
Black.....	do.	0	0	0	Pears (kitchen)..	doz.	0	0	0	0
Figs.....	doz.	8	0	12	dessert.....	doz.	0	0	0	0
Filberts.....	100 lbs.	0	0	0	Pine Apples....	lb.	4	0	8	0
Cobs.....	do.	50	0	60	Plums.....	1/2 sieve	0	0	0	0
Goosecherries..	1/2 sieve	2	0	3	Quinces.....	1/2 sieve	0	0	0	0
Grapes, Hambro..	lb.	3	0	8	Raspberries....	lb.	1	3	1	6
Muscats.....	lb.	8	0	12	Strawberries....	lb.	0	6	2	0
Lemons.....	100	5	0	10	Walnuts.....	bush	14	0	20	0

#### VEGETABLES.

	s.	d.	a.	d.		s.	d.	a.	d.	
Artichokes.....	each	0	4	0	Leeks.....	bunch	0	3	0	6
Asparagus.....	bundle	3	0	5	Lettuce.....	per score	0	9	1	6
Beans Broad.....	$\frac{1}{2}$ sieve	2	0	3	Mushrooms....	pot	1	0	2	6
Kidney.....	100	0	6	1	Must. & Cress, punnet	0	2	0	0	0
Beet, Red.....	doz.	3	0	4	Onions.....	bushel	5	0	7	0
Broccoli.....	bundle	0	0	0	pickling.....	quart	0	6	0	8
Brus. Sprouts..	$\frac{1}{2}$ sieve	0	0	0	Parsley.....	$\frac{1}{2}$ sieve	1	0	1	6
Cabbage.....	do.	0	9	1	Parsnips.....	doz.	1	0	2	0
Capsicums.....	100	0	0	0	Peas.....	quart	0	9	1	6
Carrots.....	bunch	0	7	0	Potatoes.....	bushel	2	6	4	0
Canlidflower....	doz.	4	0	8	New.....	per doz. lbs.	1	6	2	6
Celery.....	bundle	2	0	3	Radishes doz. bunches	0	6	1	0	0
Cucumbers.....	each	0	6	1	Rhubarb.....	bundle	0	2	0	4
pickling.....	doz.	0	0	0	Savoys.....	doz.	0	0	0	0
Endive.....	score	2	6	3	Sea-kale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	Spinach.....	bushel	1	0	2	0
Garlic and Shallots, lb.	0	8	0	0	Tomatoes.....	doz.	3	0	4	0
Herbs.....	bunch	0	3	0	Turnips.....	bunch	0	4	0	6
Horseradish... hundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0	0

### TRADE CATALOGUE RECEIVED.

Osborn & Sons, Fulham.—Catalogue of Hardy Trees and Shrubs.

### TO CORRESPONDENTS.

PLANTS SUITABLE FOR THE WALL OF A STOVE (*J. Bayley*).—*Wistaria chinensis*; *Virginian Creeper*; *Lonicera flexuosa*, L. aureo-reticulata; *Clematis montana*, C. flammula; *Aristolochia siphio*; *Bignonia radicans* major; *Hedera* (the Ivy), Gold-blotched Irish, maculata, palmata, Silver-striped. Climbing Roses *Ruga* (this will grow in the coldest situation), *Amandia*, *Grevillia*, *Felicite perpetuelle*.

PRIZE MELON.—The scarlet-fleshed Melon with which I took first prize at the Royal Botanic Society's Exhibition should have been named *Monnuden's Moreton Hall* instead of *Malvern Hall*.—THOS. PATON, *Charlote Park*.

STOPPING VINE LATERALS—BUDS BURSTING (*W. D., jun.*).—The cause of the buds bursting prematurely on your young Vine is very luxuriant growth and rapid root-action. We had a young cane of *Duchess of Buccleuch* this season that burst in a similar way. It is unfortunate when this happens, as the Vine will have to be cut back at the pruning season to the first good eye below the first primitive bud. If this is not done the Vine will always look very unsightly, as the spurs will be obliged to be left long, and will go on increasing in length each year; but if the Vine is strong and can be well ripened, the best way would be to take five or six good bunches of fruit from it next year, and encourage a young cane up from the base of the Vine for the following season.

MUSCAT VINE LEAVES TURNING BROWN (*A. Young Gardener, Lincolnshire*).—Your Vines are very likely infested with the red spider. If so, keep the atmosphere moist, and put a thick coat of sulphur on the pipes, walls, or any other available part of the house.

AZALEA LEAVES INFESTED WITH BROWN THRIPS (*X., Sildmouth*).—The foliage of your Azaleas is very badly infested with brown thrips. Dip them two or three times in a mixture of Gishurst compound and water; put about two ounces of Gishurst to one gallon of water, and syringe the plants two or three times daily with clean water. This will soon clear them.

GRAPES DISEASED (*J. R.*).—The berries of the Lady Downe's Grape are very severely affected with what gardeners call "spot." It is an ulceration caused usually by the roots not obtaining a sufficient nutriment from the soil, owing to their descending too deeply or into an ungenial subsoil. We would remove the surface down to the first roots, put over them a little rich compost, and water with tepid water, at the same time ventilating night and day freely.

IRON GREENHOUSE (*P.*).—Any of the bothouse manufacturers who advertise in our columns could supply what you require. A similar structure might be made of wood, equally removable and cheaper.

GARDEN TURF WEEDY (*M. E. H.*).—The Plantain and the Milfoil (*Achillea*), which you enclose can only be eradicated by uprooting with a chisel or knife. Then sift over the whole a mixture of thoroughly decomposed stable manure and earth to the depth of a quarter of an inch; then sow it with Suckling seed (*Trifolium minus*), and pass the roller over.

APPLYING SALT TO ASPARAGUS-BEDS (*W. E.*).—We apply it at the rate of four ounces to the gallon, dissolved in house sewage, by means of shallow trenches made between the rows of plants. We apply it once a week throughout the growing season—from April to October. We cover the surface of the beds with about an inch in thickness of thoroughly decayed stable manure.

CALECOLARIA SEEDLINGS (*Knowsthorpe, Leeds*).—Your seedling Calceolarias are some of them of first-rate quality. These with a light cream-coloured ground are especially good, the circular markings distinct and novel. We should much like to see the plants. The dark flowers, though of good form, are not new in colour. Some of them are very promising, and of fine form.

MILDEWED PEAR LEAVES (*Chilworth*).—The leaves so severely visited by patches of fungi, turning black eventually and falling, indicate the border requires manure, mulching on the surface, and abundance of moisture. We should syringe copiously the leaves and the wall every evening during dry hot weather.

CUCUMBERS DEFORMED—VEGETABLE MARROWS FALLING (*Prospere*).—Cucumbers have large stalk ends, and dwindle towards the other extremity, usually because the roots are defective in action, owing to too little or too much bottom heat, or because there has been an irregular or deficient supply of water. The Vegetable Marrow fruit would fall from similar causes, or from air not being admitted sufficiently freely.

AN ORNAMENTAL CONIFER—PROPAGATING FLOWERING THORNS (*P. B.*).—You may take your choice for your mound and screen of *Wellingtonia gigantea*, *Abies Douglasii*, and *Pinus insignis*. The latter makes a noble tree, but you had better inquire whether it is perfectly hardy in your neighbourhood before you decide. *Abies Douglasii* is sure to be hardy. Flowering Thorns are best from buds, which may be put in during August and September.

PLACING VALLOTA PURPUREA IN WATER (*P. P.*).—We have not tried this *Amaryllid* in the open air, placed 2 or 3 inches in a shallow reservoir of water, but have repeatedly had it in a saucer of water from April to September, and it seemed none the worse of this semi-aquatic treatment. We have kept it in the open air plunged in a sunny place; and we doubt not it would do with the pots placed 2 or 3 inches deep in water in a large shallow reservoir, very much exposed to the sun, as you propose, taking in the pots the end of September. If you try the experiment we should be obliged by your stating the result.

MELONS TURNING YELLOW (*R. Allen*).—The usual reason is that not giving air early destroys the pollen, and the Melons consequently do not set. Another cause is too much moisture, which destroys or hinders the distribution of the pollen, and prevents the stigma receiving it in a fit state for fructification. The fruit sometimes turns yellow from a deficiency of bottom heat preventing a supply of sap sufficient to insure the swelling of the fruit, and at times through a deficiency of moisture in the soil. Keep the shoots thin, so as to admit light and air; give air early, and keep the surface of the soil rather dry at the time of setting, still quite moist beneath the surface; impregnate the flower, and stop above the fruit at the second joint; maintain a brisk bottom heat, and then keep the atmosphere dry. Avoid watering or wetting the surface whilst in bloom, and, if necessary to give water at that time, do so through drain-tiles inserted in the soil, or make holes, and pour the water into them.

CUTTING ASPARAGUS.—At page 488, second column, line 19, for "finer," read "fewer."

ROSE NEWS.—I cannot this week give the gossip that I gathered upon my late visit to Paris, but I may give all Rose-growers a good bit of news—that *Lacharme*, the well-known raiser of Charles Lefebvre, Louise Darwins, and other excellent Roses, has a genuine YELLOW Hybrid Perpetual, of the *Centifolia* type, to be let out in 1886.—D., *Deal*.



**MANAGING A NEWLY-PLANTED THORN AND BEECH HEDGE** (*An Amateur Gardener*).—You did quite right in cutting the Thorn or Quick plants down after planting the hedge. It would strengthen the Quicks, causing the shoots to come stronger, and a good bottom would be obtained at once, which is a main point. So far, then, your hedge will have a good foundation, which you must retain by trimming in the sides slightly early in August, and keeping the bottom clear of weeds, so that the fence may grow thick and close to the bottom. At any time after the leaves have fallen up to that of their reappearance the top may be taken off to 1 foot 6 inches, if it has made so much growth; if not that height, do not cut it down until after the second year's growth is perfected. Continue to trim the sides in in August in future, and when the height of hedge is attained take off the top at a few inches below the height required; trimming during the summer in June, and another run-over in the end of August will keep it very neat. The beech will need no trimming this year, and only at the sides until the height of hedge is gained, when it should have the top taken off 9 inches or a foot lower than ultimately required. It is best to clip beech hedges during the winter, though they may be cut, like Quick and Privet hedges, once or twice during the summer.

**RAISING BROMPTON STOCKS** (*Idem*).—Sow the seed forthwith in an open situation, and water if dry weather ensue. When large enough to handle plant out where intended to bloom, selecting a sheltered situation, and affording a little protection during severe weather by means of furze and fir or other close-branched evergreens. The Stocks may be planted close together, so as to require thinning in March; but the safest plan is to pot them in small pots, and place in a frame on a dry bottom on the approach of frost, plunging the pots in coal ashes, and giving air in mild weather, and planting out with the balls entire in March.

**EARLY PEAS**.—We have received (June 30th), from Messrs. Carter & Co. a sample of their variety, "First Crop." The Peas are an excellent sample, dry and hard—evidence that the harvesting was not hurried.

**WORMS IN VINE-BORDER** (*Witten Lodge*).—The earth worms were attracted to the border by the manure. They will be beneficial rather than otherwise by making perforations in the soil.

**AIR IN VINERY** (*A Subscriber*).—It requires to be kept well supplied with moisture by pouring water on the paths, &c., freely; but the ventilation must be good also by night and day, for stagnant damp air induces mildew. A dry hot atmosphere insures the introduction of red spider.

**SEEDLING CARNATIONS** (*Eaton M. D.*).—There is nothing remarkable in your seedling Carnation but its size; it is what is termed in floral language a monster. It is not unusual for seedlings when they first come into flower to produce these gigantic forms. The flowers are totally useless; the superabundance of petals always causes the pods to burst, which is very objectionable.

**DOUBLE FUCHSIA** (*A. R. McGuire*).—Your seedling double Fuchsia is not at all new, the bright colour of the sepals is a great recommendation, but it is not better than *Hercules*, *Universal*, and many others. The value of the seedling would depend on the habit of the plant. We have no recollection of receiving an *Anemone* flower from you in the spring.

**INARCHING VINES** (*An Amateur, Southampton*).—Unite green wood of the scion to green wood of the stock when the shoots of each are 2 or 3 feet long.

**SELECT CARNATIONS, PICOTEES, AND PINES** (*A. T. C.*).—The tastes of northern and southern growers differ, but the following are good and suitable for the northern and midland counties:—*Carnations*: Admiral Curzon, Lord Ranelagh, Black Diamond, Lord Milton, Fanay, Sarah Payne, Premier, Squire Meynell, Firebrand, Sportsman, Ariel, Friar Lawrence. *Picotees*: Mrs. Norman, Isabella, Amy Robsart, Lord Nelson, Mrs. Doddwell, Robin Hood, Mrs. May, Finis, Mrs. Barnard, Venus, Bertha, Mrs. Fisher. *Pinks*: Beauty, Catherine, Climax, John Bull, Lord Chancellor, Lucknow, Lucy, New Criterion, Mrs. Enfield, Mary Ann, Purple Perfection, Purple Gem.

**WHAT CAUSES THE WINDS** (*Ellen*).—We cannot reply better than by the following quotation from one of the best of our magazines:—"Regarding them in the simplest way, they are evidently produced by the successive heating of those parts of the earth most directly exposed to the sun's rays, the consequent expansion of those heated portions of the atmosphere in contact with the warm earth, and the replacement of these warmed and expanded portions by cooler air from north and south. The operation going on incessantly, a steady current would be produced at all times from both poles to the equator. This, indeed, soon ceases to be a north and south current from the poles to the equator, for the heated air rising and passing to the poles is moving with the velocity of the earth's surface at the equator—or a thousand miles per hour—while the air starting from the poles has no initial velocity. Thus each hot current as it advances northwards or southwards passes beyond the longitude of the place from which it started, and each cold current as it travels toward the pole lags behind the parts of the earth over which it successively travels. The north and south winds thus become at length east winds at the equator. While approaching the equator they are north-east and south-east winds for a considerable distance, and in this state, within certain latitudes, are called trade-winds, from their usefulness in navigation."—(*The Englishman's Magazine* for July.)

**VINERY** (*P. O. Whitehead*).—With plenty of heating power, which, we presume, you can easily have in your part of the country, we do not consider that your house is too high; and the angle, 45°, is a good one, either for early or late work, or any work. If you feel the wind very much you might have the height 2 feet less, but, with plenty of heat, we would do as you propose. For the border, inside, we would advise from 20 to 24 inches in depth, over a foot of rubble, and that drained beneath. It is much in your favour having the floor of the house, inside, so much above the outside level, as drainage will be an easier matter. We would make the border on the top of the present floor.

**NAMES OF PLANTS** (*Cumberland*).—1, *Lastrea Filix-mas incisa*; 2, *Polystichum angulare subtripinnatum*; 3, *Lastrea dilatata grandidens*; 4, *Athyrium Filix-femina pyramidalum*; 5, *Lastrea Filix-mas paleacea*; 6, *Athyrium Filix-femina*. (*H. T. K.*).—1, *Pedicularis sylvatica*; 2, *Gil-lenia trifoliata*; 3, *Polygonum aviculare*; 4, *Nepeta Mussini*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 1st.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 25	30.152	30.024	78	47	64	62	S.W.	.00	Very fine; overcast; very fine at night.
Mon. . . 26	30.050	30.031	68	43	64	61½	E.	.00	Overcast; dry haze; overcast; fine at night.
Tues. . 27	30.212	30.112	77	39	63	60½	W.	.00	Overcast; very fine; fine at night.
Wed. . . 28	30.055	29.952	78	50	63	60½	E.	.01	Overcast; cloudy and fine; slight shower; very fine; overcast.
Thurs. . 29	29.646	29.362	64	52	62	60	W.	.42	Overcast; rain; cloudy; rain.
Fri. . . 30	29.376	29.262	66	50	62	59½	W.	.43	Overcast; warm and heavy rain at night.
Sat. . . 1	29.872	29.695	73	39	61	60	N.E.	.00	Cloudy; fine; very fine throughout; cool at night.
Mean . .	29.909	29.749	72.00	45.31	62.71	60.57	....	0.86	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### FACTS ABOUT EGGS.

It is thought by naturalists, that the eggs of our domestic hen of the present day are, on an average, very nearly a third larger and heavier than those of the hens of the ancients.

The proportions of the yolk to the white of the egg are very nearly the same in each of the different races; but in proportion as the egg diminishes in size, does the relative proportion of the white to the yellow of the egg diminish—that is, small eggs have more yellow than large ones in proportion to their size, but the weight of their shell is also greater in proportion.

Eggs which contain the largest yolk or yellow, like those of the Brahma and Cochín-China hens, produce the largest chickens.

The weight of sterile, or unfecundated eggs, is less than that of those that have been fecundated; and their nutritive qualities are less.

The eggs of the wild hen have a superior flavour. The proportion of the yellow in them is greater than in the eggs of ordinary domestic fowls; they have a higher colour, also, and cooks esteem them on this account, for the preparation of certain sauces in the proportion of one to three.

Barley is said to increase the proportion of the yellow of the egg, and rye is said to favour the development of the white.

Eggs lose a slight portion of their weight day by day, when left to themselves, the contents becoming dried up gradually, and reduced, so that there is left a solid residuum withdrawn towards the small end of the egg, the opposite end being filled with air. Eggs which weighed 2½ ozs. when fresh, weighed but a very small fraction over 1 oz. at the end of two years. During incubation the diminution of weight is pretty rapid.

Aristotle taught that round eggs contained male chickens, and elongated eggs females. Scientific men have both combated and sustained this opinion, but the general opinion of naturalists at the present day is, that both males and females come from both round and elongated eggs. Fecundation exercises no control over the figure or form of the egg. The most exact and scientific experiments upon these points, conducted recently at the Jardin d'Acclimatation at Paris, have led to these conclusions.—(*Massachusetts Plowman*.)

### VERY LIKE SWINDLING.

CAN any of "Our Journal" readers give me any information respecting a person who advertised in your columns for good poultry in exchange for foreign birds? Having many of the



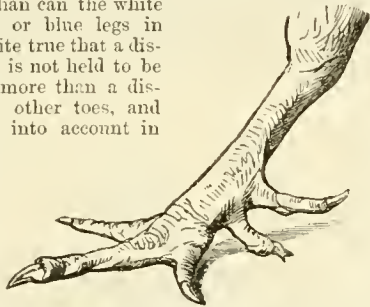
former, and being fond of the latter, I was induced to answer the advertisement. This led to a correspondence, in which the advertiser undertook to send me some Californian Quails and other Australian birds (*sic*), on my sending her a pen of Buff Cochius which I had mentioned. My birds were sent to the address named, and after some delay I was informed that the lady had moved from Croydon to Brompton. The result is that I have never recovered birds, price, or equivalent; and after repeated threats at length I instructed my solicitor to proceed against the person, but this was too late, as we find the bird has flown and cannot be heard of. Perhaps some one else has been victimised in the same way; and if so, you may be doing a kindness to our poultry fraternity by stating that the name of this "lady" is Mrs. Firebrace, late of Croydon, since of Ovington Square, Brompton.—T. C. H.

### THE FIFTH TOE OF DORKING FOWLS.

Is this really an essential? Mr. Baily, in his little book entitled "Fowls," when speaking (pp. 112, 113), of the points required in exhibition birds says nothing about it. The largest and most symmetrical birds I ever saw had all the Dorking characteristics except the fifth toe. I am further inclined to believe that it is not an essential, because you see it of all kinds of shapes, pointing in different directions, and even nailless, without having any influence over the awards of the judges.—NEWPORT.

[This is one of the most heretical letters we ever read, and if Mr. Baily knew the writer we are quite sure he would excommunicate him. The fine birds alluded to by "NEWPORT," are known as "Sussex" fowls. They are thus mentioned in "The Poultry Book"—"The breed now known as the *Sussex* fowl, has only four claws, and is a less compact though larger bird than the true Dorking, which it otherwise much resembles." In fact, the fifth toe is an essential characteristic, and can no more be disregarded than can the white face in the Spanish, or blue legs in Hamburgs. It is quite true that a distortion of the fifth toe is not held to be a disqualification any more than a distortion of one of the other toes, and would only be taken into account in case it was the only inferiority apparent in two otherwise-equally-excellent competing pens. At the same time there is no doubt that there is a form and position of the fifth claw, which is the most desirable, and it is as thus represented by M. Jacques.

"The claws," he says, "should be strong, clean-jointed, five in number;" and "The Poultry Book" says, in detailing the characteristics of excellence, "Claws five in number on each foot, and well defined."]



### BEE-KEEPING IN DEVON.—No. XXIV.

#### A PROSPEROUS APIARY.

WHEN publishing to the world the misfortune which overtook me in 1863,\* and relating my experience of that terrible disease foul brood, which had caused my hapless apiary to dwindle to the very verge of extinction, it was not a little amusing to observe how many were prone to attribute my ill-success to the adoption of a scientific and experimental system of bee-management. "An OLD-FASHIONED BEE-MASTER" of Finchley, openly rejoiced over my discomfiture; Mr. Lowe authoritatively pronounced that "an experimental apiary can never be a thoroughly prosperous one," and published an amusing article which riled me not a little at the time, and in which he appeared to hold up to ridicule all that he either knew or imagined of my apiarian proceedings; whilst Jonas Jackson attributed my downfall to the neglect of certain popular superstitions. These Job's comforters were, however, vastly out-numbered by the multitude of correspondents who aided and cheered me by their sympathy and advice, and even in one instance (that of "J. E. B.," whose personal acquaintance I have recently had the pleasure of making), presented me

\* Vide JOURNAL OF HORTICULTURE, Vol. V., page 59.

with a strong colony of bees in the hope that it might aid in stemming the torrent of destruction which, at that time, threatened to overwhelm my entire apiary. Nor were there wanting those who, while giving expression to their kind sympathy, did not hesitate to express their conviction that I should in the end triumph over all my difficulties, and ultimately re-establish my apiary, and perchance raise it to a higher state of prosperity than before. To all such I may now return my warmest thanks, and I feel sure they will participate in the pleasure I have in informing them that their kind anticipations have been more than realised. Never since I first commenced bee-keeping (now just a quarter of a century ago), have apiarian matters progressed so pleasantly and prosperously with me as during the glorious summer of this year of grace 1865.

It may be remembered that last autumn I possessed twenty stocks; of these I unfortunately allowed one to starve by an oversight for which I can now scarcely account. The whole of the nineteen remaining stocks survived the winter, albeit some were much weakened from loss of bees during their protracted confinement, and breeding was also much delayed by the cold and late spring. Notwithstanding these drawbacks my account now (29th June) stands as under:—

PARTED WITH.		REMAINING IN MY APIARY.	
Stocks.....	14	Stocks.....	11
Swarms.....	3	Nuclei with impregnated queens.....	1
Queens.....	4	"    unimpregnated    ".....	1
		"    royal cells.....	9
Total parted with.....	21	Total remaining.....	25
		Total parted with.....	21
		Grand total.....	46

As nearly all the stocks which I have sent out were despatched during the spring, they have, of course, been of little or no assistance in multiplying those that remained, so that in point of fact almost all this increase has arisen from the five remaining old stocks, aided by combs and brood from three purchased black swarms, which swarms were allowed to remain undisturbed in the country for about a month after hiving, and then plundered of nearly all the combs which they had constructed.

I esteem myself particularly fortunate in having had but one natural swarm, which issued on the 9th of June, settled in a pear tree, and was soon safely hived; but as if it were impossible for a natural swarm to issue in my apiary without being the harbinger of some mishap, the only young queen I have lost this season happens to be the one which just five days afterwards emerged from one of the only two royal cells which existed at the time of the departure of the swarm. Her death occurred in this wise: On June 17th, I was looking over, and rectifying, as is my wont, any irregularities in the formation of the new combs of the swarm, upon one of which I had just seen the queen, when I was horror-stricken by discovering, as I supposed, the beautiful matron I had seen in full health not a minute before lying lifeless, and evidently stung to death on the floor-board. Bitter was my mortification at believing that some inexplicable clumsiness in my manipulations had resulted in the premature decease of what was certainly my most beautiful and favourite queen—a mortification mitigated only by the reflection that she had attained the mature age of three years, and, although evincing as yet no sign of waning fecundity or decrepitude, not likely much longer to continue capable of maintaining the population of a strong and flourishing colony. Having accordingly allowed three days of mourning over my defunct favourite to elapse, I reflected that it was of no use to waste the time and energies of so large a multitude of bees in raising a young queen and waiting her impregnation, when I had it in my power at once to place a competent sovereign at their head, and therefore proceeded again to examine the combs with the view of taking preliminary steps by eradicating such royal cells as might have been started in the interim. Judge, then, what must have been my joyful surprise at discovering my yet queen perambulating the combs in the enjoyment of full health and vigour, and perceiving that she had evidently "not been dead at all," although I had mourned her as such. I was for some days much puzzled to account for the presence of the dead queen on the floor-board, and although this mystery ultimately received a partial elucidation by the discovery of the loss of the young queen from the old stock, I am still unable satisfactorily to account for her straying into the hive containing the swarm, especially as a third colony intervened between the two.

I may here say a few words with regard to the supposed



inferiority of what are called "artificial" queens, which are by some supposed to be so deficient in instinct as to be more prone to go astray than natural queens, to which, indeed, it is imagined they are also inferior in fecundity. My experience, which is now a pretty extensive one, satisfies me that there is no foundation whatever for this belief. "Artificial" queens, so called, are really as natural as what are generally denominated "natural" ones, from which they do not, moreover, differ in the slightest respect. Their fecundity is the same and their instinct by no means inferior. It will be observed that the only "natural" queen that has been produced in my apiary during this season was also the only one to go astray.

So abundant has been the honey harvest that one of my old stocks compelled me, rather late in May, to put on a super.

Notwithstanding repeated deprivations of bees and brood for the purpose of stocking "nuclei," honey poured in so rapidly that the breeding space was fast reaching the vanishing point when I tardily afforded them the much-required accommodation. This was at once taken possession of, and all went well until the 13th of June when a swarm emerged, but did not cluster, and presently returned to the parent hive. Knowing that the queen was disabled in one wing through ill-treatment by a swarm of black bees which were united to her subjects in the autumn, I instituted a diligent search; but failing in finding her, hoped she had not attempted to take wing, and turned my attention to the old hive, which I examined likewise without success, but from which I excised every royal cell I could find. On the 19th of June I repeated my examination, again excised whatever royal cells I could discover, and introduced a young queen hatched on the 11th and which had exhibited signs of fecundation. A subsequent examination, five days afterwards, revealing hundreds of eggs in the first comb lifted out was so satisfactory that it was not further proceeded with, and the stock working vigorously has now nearly completed its super, the nett contents of which when filled will not be much under 40 lbs. and which I hope to be able to allow Messrs. Neighbour to exhibit at Plymouth during the forthcoming show of the Royal Agricultural Society.

In conclusion I would invite such of the readers of "Our Journal" as may be disposed to doubt the possibility of an experimental apiary being also a thoroughly prosperous one to pay a visit to that of—A DEVONSHIRE BEE-KEEPER.

### BEEES IN YORKSHIRE.

As reports from this district are very rare in the Journal, it may interest your apiarian readers to know that the season so far has been a favourable one for bee-keepers. Swarms have been numerous, and there is no lack of honey. We have had more than five weeks of fine weather, interrupted only by three days rain; and although the excessive heat and drought are not very favourable to honey-gathering, yet the continuance of so many fine days without a break, adds continually to the stores of the hive. The cold nights also have induced frequent heavy dews, which always tell well.

The hives here stand rather thick on the ground, there being upwards of forty within the radius of a mile; but I believe all are doing well. As soon as our chickens are hatched and may be safely counted, I hope to give some account of my own proceedings and those of one or two of my neighbours. Meanwhile, for the sake of comparing with other districts, I note the large number of double swarms which have occurred this season, the union taking place without fighting, except in the case of the queens; also, the prevalence of drone-comb in the supers. Am I right in attributing this to an abundance of honey, which can be stored more rapidly in this way than in worker cells?—F. H. WEST, *Potternewton, near Leeds.*

[We shall be obliged by reports of the results of the honey harvest from different localities. The ingathering from the lime-tree blossoms is now at its height near London.—Eds.]

**THE TOAD A BEE-EATER.**—I have heard that our common toad would devour bees, but I would not believe the assertion until last week. I was then watching my bees as they were coming in and out of the hive, and to my surprise I saw a large toad in front of the bees, in a bed of cabbages, devouring them as fast as they flew down or near where he was. Will you inform me whether this is a usual occurrence?—JAMES N.—

[It is well known, and has been long known, that the toad is a most determined apicide.—Eds.]

### THE MASON WASP.

On the front of the gentleman's house where I reside as gardener, I was ataking some sweet peas, when my attention was drawn to something like earth on the ledge outside the window, but upon closer examination it proved to be a nest of larvae, like little caterpillars. There were four closed tubes rather larger than tobacco pipes, one of which I broke off to see what it was like. I took the top off one of the other tubes and stood looking at the minute grubs. In a few minutes a large wasp came humming up and alighted on the top where I had made the hole. It looked very closely at the hole which I had made, then flew away, and I thought no more of it till looking on the gravel there was the wasp. Up it flew to the tubes and deposited some very fine dust or sand, and then formed it into a puddle, and filled the little hole up which I had made, and then flew away.—J. B.

[The wasp which formed the mud cells described above, is one of the Solitary Mason wasps (*Odynurus*), of which there is a considerable number of British species. We shall be glad to see a specimen of the wasp itself, as the cells were rather unusual in form.—W.]

### BEEES IN NEW BURLINGTON STREET.

THE *Times* of Friday last says:—"On Wednesday afternoon, about five o'clock, not a little excitement and astonishment was caused in New Burlington Street by the circumstance of a swarm of bees alighting on a cab which had just drawn up at a restaurant. A man having procured a hive, set to work, and with assistance succeeded in securing the whole of the unexpected visitors, and took them away. A swarm of bees is rarely if ever seen in the streets of London, but it is not an uncommon occurrence for a swarm to stray considerable distances." Referring to the foregoing paragraph, Mr. Alfred Neighbour writes us as follows:—"The bees were ours. A swarm, being ordered to be sent into the country the following morning, was placed temporarily on the leads at the back of this house (149, Regent Street). The sun shining hot on the hive, or some other cause, induced them to decamp. Some one told us that the bees had arrested the progress of a cab, and we sent our man to bring the truants back, which he succeeded in doing, followed by a crowd to this door, who were evidently amazed at the sight of the "oney bees," as the cockney lads called them. Cabby had to be compensated for the loss of his fare, and so you may imagine that not a little commotion was caused. I thought that from the circumstance of the paragraph appearing in the 'leading journal' you might make an extract for THE JOURNAL OF HORTICULTURE, and that it might be as well to put you in possession of the real facts. New Burlington Street is the next street to this going towards Oxford Street."

### CAUTION.

The following advertisement has appeared in several recent Numbers of the *Times*:—

"How to Take the Honey out of the Hive without Destroying the Bees. Full particulars will be sent to any part of the United Kingdom on the receipt of 12 postage stamps and a directed stamped envelope. Apply, &c. Warranted perfectly safe."

Least any of our apiarian readers should be induced by the above to part with a shilling in the hope of learning "something to their advantage," we may state that the operation prescribed by the advertiser is neither more nor less than that of stupefying bees by means of chloroform, a process which has already been fully tested and most emphatically condemned by several of our ablest apiarian contributors.

### OBTAINING AN ARTIFICIAL SWARM.

I PURCHASED a swarm of Ligurian bees on the 5th of last month, and put them into a full-sized Woodbury bar and frame hive. As far as I can see, the hive appears to be full of comb; I would like to have an artificial swarm from it. I intend taking the swarm off in the following manner, which has been recommended in the Journal—viz., by taking a brood comb out of the hive, and putting it into a smaller hive, and placing the empty hive with the brood comb in it on the place where the other hive stands. I suppose I must do this in the middle of a



fine day. Will you inform me what the brood is like at two days old, as I never saw a brood comb? I suppose the bees can form a queen if they have brood of that age.—A NOVICE.

[In choosing a comb for the purpose of rearing a queen you should select one containing brood in all stages, from the newly laid egg to the sealed grub, and take also the bees that adhere to the comb. An egg two days hatched becomes a minute white worm, which lies at the bottom of the cell surrounded by a milky-looking fluid.]

## WEIGHT AND PROBABLE UNION OF SWARMS.

THE other day my bees swarmed in my absence, and on my return my neighbour had had a swarm, and mine had vanished. With his permission I weighed my neighbour's hive and found the swarm alone weighed  $7\frac{1}{2}$  lbs. Both my neighbour and self are young beginners, and wish for your opinion as to whether they have united. The hives were about 12 yards apart.—HERBERT LONDON.

[ $7\frac{1}{2}$  lbs. is a very unusual weight, and we should, therefore, be inclined to believe that the two swarms have united. There is, however, a well-authenticated instance of a swarm of Ligurians weighing 8 lbs., but the heaviest that ever came under our own immediate observation was at Edgbaston, and weighed 6 lbs.]

## CAPRICIOUSNESS OF BEES.

BEES are very uncertain in their behaviour, as sometimes a peaceful union is accomplished without any trouble or preparation, and again when circumstances are apparently exactly similar a deal of fighting and disturbance takes place. I stocked my unicomb-hive this summer with a second swarm made by driving, and secured a moderate-sized swarm and a fine young queen only just at liberty. She turned out a drone-breeder, no doubt owing to the difficulties experienced in finding her way out of the hive. I returned home early one day when she was about sixteen days old—i. e., about 3.30 (the morning had been very fine and bright), and on looking into the hive failed to find the queen. It occurred to me that she might be absent in quest of the drones, and shortly afterwards a send came on, which caused the bees to return home in vast numbers, and on looking on the alighting-board there stood the queen, surrounded by a few of her subjects; she remained almost motionless for some time pluming herself, and then very deliberately marched into the hive. I could see no marks of fecundation, but thought she might possibly have been more fortunate in a previous excursion. The next day proved cloudy, and the day after she began to lay. I soon noticed that she was unusually tardy in laying, remaining a long time in a cell, and on inspection found that she constantly deposited two, three, or more eggs in single cells, and this convinced me that I again had before me a case of parthenogenesis.

As the summer wore on the population not being replenished with workers, rapidly diminished, and although I furnished them with a fertile queen, for a short time I feared they would fall a prey to robbers, and so, on leaving home for a fortnight, removed the queen, a valuable one, and left them to rear a successor from her brood. On my return the young queen, a small dark-coloured one, was at liberty with a small population; but as the cottagers were taking down their bees, I drove a hive, and brought the natives home to strengthen the waning colony. I sprinkled the strangers with peppermint-syrup, and also anointed the aborigines with the same compound, and as I was quite indifferent to the fate of the queen I knocked the bees out in a mass in front of the hive, having secured the queen and placed her in limbo, and left them, making sure that they would make good an entrance; but on my returning home, to my astonishment, I found that my bees, relying on their strong intrenchments, had compelled the strangers to beat a retreat, leaving a vast number of their comrades dead in front of the stronghold. But where had they retired to? I supposed they had returned home, but on inquiry found not one had been seen at the accustomed stand, and on examining a bar and frame hive, containing previously a strong population, I was satisfied that the exiles had joined the community, and this had been effected without the slightest opposition from its inhabitants.

I afterwards drove another cottager's hive, and proceeded in exactly the same manner, but before knocking out the bees in front of the unicomb-hive compelled the sentinels to retire from the entrance by giving them a few good puffs

of tobacco smoke; the strangers marched to the entrance with great alacrity, gained possession of the entrance, and very soon entered the hive *en masse*. No fighting took place. The bees were in a great state of agitation all night, as the strangers were evidently searching for their queen, and in the morning I found that the young Italian monarch was under arrest, she was not, however, very closely confined, and would, I doubt not, have soon been set at liberty. To hasten her liberation I dispersed her persecutors with a whiff or two from the pipe; the bees still continued to search for their own queen, but did not again molest the Italian princess, who was proclaimed monarch by universal suffrage before evening set in.—J. E. B.

## BEES IN A CHIMNEY.

A SWARM of bees have settled in an unused chimney in a large stack in my house. The chimney is a great height from the ground, the house being two storeys high, and the swarm is some distance down the inside. What means would you advise me to adopt in order to capture the colony?—T. H. F.

[We confess ourselves puzzled, and should be obliged if any of our correspondents who have had experience in the capturing of errant swarms would advise "T. H. F." in his difficulty.]

## BEES FIGHTING IN A COLLATERAL.

A SMALL straw hive being crowded, I added a collateral box. After about a week the bees entered it, but only to fight furiously, so that the ground in front of the hive is strewn with dead bodies. I cannot tell what they were doing in the hive, but they worked very peaceably in a super.—H.

[We cannot tell why your bees fought in the side box. Are you sure they did so? We have known bees die in great numbers owing to being unable to find their way out. In this case a small aperture allowing the bees to escape into the open air is all that is necessary to set matters right.]

## DRIVING BEES, AND TAKING THEIR HONEY.

THIS is the second year I have had them, and I have been most successful this year in driving them. I drove a hive last week, which swarmed May twelvemonth, and obtained 40 lbs. of fine honey, and did not lose one bee. They are all working away merrily now in another hive. In the case of a swarm of bees which I took on the 2nd of June, finding the hive so full of comb, I drove the bees on the 22nd, and have 10 lbs. of beautiful white honey. I mention this hoping it will encourage young bee keepers, and save the bees from the painful death of suffocation.—PROSPERA.

## OUR LETTER BOX.

COCHIN-CHINA CHICKEN DYING SUDDENLY (*Eboracum*).—Staggering after feeding, and falling dead, demonstrates that the chicken died of apoplexy. A blood-vessel ruptured on the brain. Cochin-Chinas are voracious feeders, and excess of food is one of the most common causes of apoplexy both in man and animals. Less food both in quantity and at any one time is the best preservative.

FATTENING CHICKENS (*Idem*).—We cannot reply better than by this quotation from our "Poultry Book for the Many." Oatmeal and barley-meal alternately, mixed with milk, and occasionally with a little dripping, is good food. The feeding-troughs, which must be kept constantly scoured, should be placed before the birds at regular intervals, and when they have eaten sufficient it is better to remove them, placing a little gravel within reach of the coop to assist digestion. Keeping the birds without food for some hours after they are put up frequently induces them to take it more readily afterwards, but sufficient attention is rarely bestowed on the various details of preparation and supplying the food; hence complaints of the fowls deteriorating in the fattening-pen are far from uncommon. Access to water should be allowed at all times. Fattening must be completed in ten days, for after that period they begin to lose weight. The best age for table birds is when they are from four to six months old. The coop should be 3 feet high, 2 feet wide, and 4 feet long. This will admit from six to eight birds, according to their size. The bottom and front should be of bars 3 inches apart. A board outside the bars in front, 6 inches wide, will serve as a stand for the food and water-troughs. The coop should be in a warm, well-ventilated outhouse, and if kept dark between the times of feeding all the better. Sleep and warmth promote fattening.

JAVA SPARROWS (*B. B.*).—It is a very usual thing for birds, although not paired, to lay eggs and sit on them for a short time, and such was the case with your Canary. A Java Sparrow will not pair with a Canary, as the former bird will not breed in this country. We do not know of any distinctive marks between the sexes of the birds.

STOCKING A HIVE (*R. W.*).—The best mode of stocking your improved hive is with a swarm from the old colony. Transferring a stock of bees from a common to a moveable comb hive is by no means a simple operation, and one which should only be undertaken by a skilled bee-master.

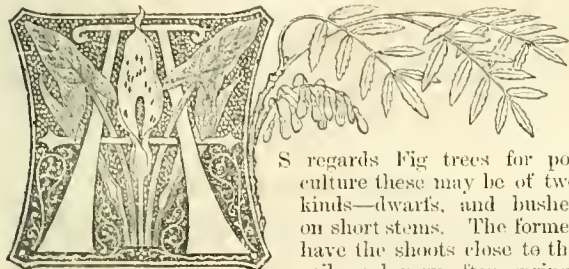


## WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 11—17, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun rises.		Sun sets.		Moon rises.		Moon sets.		Moon's Age.	Clock before Sun.		Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.		m.	s.	
11	TU	Buckwheat flowers.	74.8	50.8	62.8	10	58	af 3	15	af 8	23	af 9	14	af 7	18	5	10	192
12	W	Traveller's Joy flowers.	75.6	50.7	63.1	12	59	3	12	8	50	9	32	8	19	5	18	193
13	TH	Everlasting Pea flowers.	74.0	51.4	62.7	13	0	4	11	8	17	10	49	9	20	5	25	194
14	F	Wild Basil flowers.	76.4	51.1	63.8	14	1	4	10	8	47	11	7	11	21	5	32	195
15	S	Tree Primrose flowers.	76.2	50.3	63.2	20	2	4	9	8	16	11	after.		21	5	38	196
16	SUN	5 SUNDAY AFTER TRINITY.	75.7	49.7	62.7	15	3	4	8	8	38	11	38	1	23	5	44	197
17	M	White Poppy flowers.	75.9	51.5	63.7	13	5	4	7	8	morn.		53	2	24	5	49	198

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 75.5°, and its night temperature 50.8°. The greatest heat was 94°, on the 17th, 1834; and the lowest cold, 34°, on the 16th, 1863. The greatest fall of rain was 1.60 inch.

## FIG TREES IN POTS.



REGARDS Fig trees for pot culture these may be of two kinds—dwarfs, and bushes on short stems. The former have the shoots close to the soil, and very often spring-

ing from the stem beneath it, and are readily obtained. These have from three to five shoots generally, and are grown on the system of never stopping the shoots, but the wood done bearing is annually cut out, and the young shoots that spring from the base of the plants are retained, thus keeping the tree furnished with bearing and young wood without encumbering it with that which is old and useless.

The bush trees have straight stems 9 inches or a foot high, with a bush-like head above that. Trees, to form these, should have a single or straight stem, cutting off the side shoots, and that must be cut down in the spring to within 9 inches or a foot of its base, disbudbing the shoots to three or five shoots, according to their strength, allowing three to a weak and five to a strong plant. When they have made five full-sized leaves pinch out the points of the side shoots, allowing the upper one to grow three weeks longer, then pinch out its point in like manner, and the tree is formed; but it will not fruit that season, unless it be grown in a forcing-house, when the spring shoots may give fruit in autumn, still it is as well not to allow them to do this, but rub off the fruit if any be shown, so as to throw more vigour into the second or midsummer shoots on which the first crop is produced in the ensuing season.

We have now provided Fig trees of two kinds—one in which the shoots are never shortened, but when the old shoots become too long young shoots from the base are prepared to take their place and the old cut clean out, by which system we keep up a succession of young bearing wood, and dispense with the old. These are the kind of trees to be selected for forcing. In those of the second description the shoots are systematically shortened to five joints whenever that number of leaves is made, the shoots being disbudbing so as to prevent crowding, notwithstanding which the shoots will become too much crowded in a few years, rendering it absolutely necessary to thin-out the shoots with a sharp knife close to the branch from which they spring, or to the stem itself. These trees may be bushes on very short stems, or standards from 1 foot to any height of stem desired. They are most desirable for cool houses or those occasionally heated.

The Fig makes two growths in a year. The first is the spring growth, on which the second or autumn crop of fruit is produced, the shoots being made before midsummer in heated structures and the young fruit will be prominent

in the axils of the leaves. The second growth is made after midsummer, and such shoots are usually termed the midsummer shoots, and on such the fruit is produced that furnishes the first crop the following season. Owing to the Fig making two growths in a year two crops are obtained in a twelvemonth and occasionally three, but though three may have been obtained I am inclined to believe from my own experience that two crops are the limit. I readily admit that I have had a crop produced from May up to July by trees started in January, when the trees would rest until the end of August, then commence ripening a crop from the spring shoots, and continue to do so until October. Now this is to me conclusive that the non-stopping of the shoots has a tendency to cause continuous bearing rather than the production of two crops or three in a season; yet there is evidence of two crops, for there is a cessation from bearing between the first and second crop on the same trees. The Brown Turkey or Lee's Perpetual is very nearly a continuous bearer, whilst in most others the fruit is ripe in a much shorter time, and the evidence of one or two crops more is apparent. Have any of your correspondents had the Fig produce three distinct growths and ripen three distinct crops in one season? If so, When were they started? at what time were the respective crops ripe? and when were the trees put to rest? also, what kind or kinds?

By stopping the spring shoots the flow of sap is arrested and impelled into the fruit then swelling on the shoots of the previous year. Stopping thus increases the size and forwards the ripening of the present crop, and assists the ripening or perfecting of the shoot just made, so that the second crop is likely to be produced sooner than were the shoots not stopped. There is then a likelihood of two crops being obtained in the season without much, if any, artificial heat. The midsummer shoots should in turn be stopped if they make five joints (which is not always the case, far from it, for they oftener make but a few short joints from which the growing point must not be taken), in order to hasten the maturity of the autumn or second crop, and to ripen the wood producing the first crop next year.

In all cases of Fig-training nothing is a greater obstacle to the production of fine fruit than crowding the shoots. Every shoot should be at such a distance from the others that its foliage may not be deprived, nor deprive them, of light and air. Allowing too many shoots to grow after stopping, or without stopping, at the spring or midsummer growth, is only making work for the knife, which is only necessary in Fig pruning for cutting out old shoots; by disbudbing or not allowing more shoots to grow than are absolutely required, the vigour of the tree may be directed towards the few shoots that bear, instead of being wasted on the many that are not wanted. If any shoots have a tendency to become over-vigorous tie them down, which will lessen the crowding considerably, arrest the rapid flow of the sap, and conduce to increased productiveness. Stopping the wood when the trees are leafless is not only useless but is detrimental to bearing. Any knife-shortening of Fig trees is bad; when the knife is used for shortening it should be to cut off the branch altogether. In fact, we only want a knife once a-year, in spring, to cut out any old branch long



and destitute of bearing wood, for Figs never bear on spurs. Dishud during the growing season instead of permitting a shoot to grow in order to cut it out, and use the nails of the finger and thumb for pinching out the points of the shoots.

The most suitable soil is hazel or yellow loam, from turf 3 inches thick, cut up roughly, and one year old. To this it is hardly possible to add anything that would improve it, unless the loam is very strong, when the addition of sand would be good, and if light, strong loam and well-rotted manure would be an improvement. Drain the pots effectually. No plant will do well in a badly-drained soil, neither will the Fig.

Fig trees may be fruited in six or seven-inch pots, and though the fruit is small it is much superior in flavour to that produced where circumstances are more favourable to growth. Six-inch pots are only suitable for very small plants, and at the best afford but a scanty supply of fruit. They will, however, do in the second year for those raised from eyes, when they will give two crops. Deep pots are to be preferred, and the Fig should always be kept under rather than overpotted. If treated to "plenty of pot-room" the trees acquire an excess of vigour prejudicial to their fruiting with certainty, and are more apt to cast their fruit than plants which grow but little and are pot-bound. Nine and ten-inch pots are very convenient sizes for trees intended for forcing, eleven and thirteen-inch pots for those intended for growing in vineries and comparatively cool houses. Larger pots may be employed, but they are inconvenient.

The time of potting is a matter of some nicety. If the trees are potted in winter, or a short time before forcing or growth commences, most, if not all, the fruit will fall, and, if potted whilst in active growth, in all probability a plentiful supply of wood, and the fall of the second crop prematurely will be the results. It is, indeed, hardly possible to pot the Fig without losing a part, if not all, of the succeeding crop. One exception is when the pots are plunged in a bed of leaves or other fermenting materials, so as to get the roots to the sides of the pots before any leaf growth of moment takes place; and the other exception is when the trees are potted immediately after the last crop of fruit has been gathered, and the leaves are assuming their autumn tints, for the fibrous roots are sure to be emitted rapidly in spring, and the succeeding crop will seldom fall in consequence of the shift. It is a good practice to pot Figs seldom, but to top-dress with rich compost, removing the old every year just when the leaves begin to fall, and to keep the pots half plunged in leaves, or standing on a bed into which the trees can root through the holes in the pots. The roots in this case should be cut off annually at the time of top-dressing.

In addition to top-dressing, the trees may be fed with liquid manure, weak applications once or twice a week being of great service during the swelling of the fruit. I have occasionally covered the surface of the soil with a layer of fresh cowdung about 3 inches thick, so as to form a basin round the stem, and into this the water was poured; a healthy tree in full growth would require this basin to be filled twice a-day in hot weather, and once daily in dull periods. I may venture to state that there is not a fruit tree in a pot that will not do well with a top-dressing of fresh cowdung, and the roots come up into it. Among the trees that like it best, the Bananas or Musas are conspicuous; they will take three dressings of the fresh dung in a season, and every time the roots will come through begging for more. The Vine, Peach, Nectarine, and all stone fruits, and the Fig, flourish in it.

As to water, the Fig requires a good supply, but the soil should never be deluged, nor allowed to become dry, or the fruit will fall. It is a nice point neither to under nor overdo the watering of Fig trees; they should be kept well and regularly supplied. The Fig seems to be very impatient of changes, for I have found that a change of the waterer would be sufficient to cause the fruit to fall. I never could understand this, but such is the fact; only one person, when it is practicable, should water Figs. When the fruit is ripening the soil should then be kept rather drier, still well supplied with water, but when the second crop is ripened off the water should be given sparingly, and altogether discontinued after the leaves have fallen.

After bearing, the trees may be kept in any cool house or shed, and the cooler the better, if only secure from frost. Though the soil in the pots is usually allowed to remain dry from the time of the leaves falling to that of the trees being placed in heat or in the house where they are intended to fruit, I am certain that this drying process may be carried to

extremes. The soil should be dry, no doubt, to a certain extent, but there is a difference between keeping it dry to guard against frost, and so dry as to cause the roots to shrivel. The soil should be so moist as to maintain the roots in a healthy state; dry, but with a certain amount of moisture, though dry to all outward appearance.

During the seasons of growth (the Fig having two), the foliage should be syringed forcibly on the under side to keep down red spider, its greatest enemy, twice daily from first to last, except when the first crop swells for ripening, when the air must be dry, otherwise the fruit will crack and split before fully ripe, and after the second crop begins to ripen no more syringing will be needed, in fact, syringing should then be discontinued, the atmosphere kept dry, and well ventilated.

The Vine is not unlike the Fig in the treatment which it requires as to temperature, and Fig trees in pots may be successfully grown in vineries, whether forced or not, and will succeed in a common greenhouse; but to secure two crops it is necessary to grow the Fig in a heated structure. Fig trees will also succeed in a slightly shaded position, but when too much in the dark, though they grow well, they fruit but little.

I shall have occasion to write of temperature, and other matters relating to Fig culture, in treating of the tree in Fig-houses, and on garden walls.—G. ABBEY.

### GOSSIP ABOUT ROSES.

ALTHOUGH my recent run through Belgium brought before me many subjects of interest, which I should be glad to introduce to the readers of THE JOURNAL OF HORTICULTURE, yet as we are now in the very height of the Rose season, and so many and so widely distributed are the subjects of the queen of flowers, I cannot do better, I think, than just have a little quiet loyal chat with them on the matter of our common sovereign; and while the "free and independent" all through the country are discussing the relative merits of blue and orange, pink and purple, we can, without the excitement, the cold brandy and water, and pots of beer, which seem, alas! intimately connected with political strife, decide as to the merits of the candidates for our constituency; and as it seems to me that the measure of a candidate's suitability is what can be got out of him, so, I think, we have something of the same standard to go by. If we cannot get out of our new Rose enjoyment from its personal appearance (a point in which, by-the-by, many would-be M.P.'s are singularly defective), pleasure in seeing its fine foliage and steady growth, and comfort in its having a good constitution, we at once say it won't do for us. It may represent other constituencies—it may do for the suburban porch of our friend Tomkins or the wilderness gardens of Sawkins, but it will not do for our more fastidious eye; so that after all, though we talk very loudly, I am afraid that we are actuated by something of the same spirit as the free and independent electors who have the prospect of a good berth or so for Master Tom or Harry in their minds before they give their votes.

Any one who goes to Paris in the expectation of seeing first-rate Roses will be disappointed. I had a good walk through several of their grounds, and I feel confident that neither Margottin, Verdier, nor Levesque could put up such boxes of Roses as we are wont to see at our shows. Nor is it difficult to see that this must be so. The great heat and dryness of the soil is injurious to good blooming, while the absence of that stimulus that a good prize gives with us makes itself felt. Again: Any one who has tried knows the difficulty of seeing the new Roses. You are either too soon or too late: so that, although I have gone over at various times in June, yet I have never seen many. I do not say that this is intentional—far from it; I believe the growers wished to let me see their Roses; but as the new varieties are cut up so much for propagation they are always a good deal later than the established plants, and thus until the end of June you would hardly see the new Roses there; and at that time all the Lyons Roses, some of our very best, will have passed. Indeed, Lacharme told me that the best time to see the Roses of the South of France is September; and the mention of his name induces me to notice what perhaps many of your readers may have omitted to see last week, as it was amongst the notices to correspondents—that he has been fortunate enough to obtain a genuine yellow Hybrid Perpetual Rose. I had best give his own description of it:—"C'est un Hybride très rementant, arbuste vigoureux; fleurs de la forme la plus parfaite des centfeuilles (Centifolia), très



bean jaune." He says, moreover, that he has others with yellow flowers, which he is propagating. This is great news for us, and opens out the prospect of other accessions. He has also a very pure white in the style of Louise Darzins. These are not for next autumn. He intends to send out four varieties in the autumn of the present year, one of which I have seen, the other I hope to see before then. The one he did send me was a very fine flower of the *Senateur Vaisse* and *Duc de Rohan* type. It is called *Alfred Colomb*. The flowers are large, full, and well-shaped; the colour, a lovely scarlet crimson, not shaded. He says he is very rich in seedling *Roses*, and he is no mean judge, although he has made a sad blunder in one matter. I heard the story in Paris, and also from several the other day at the Crystal Palace; and as I knew it was incorrect I determined to sift the matter to the bottom, and I believe every *Rose-grower* will acknowledge the correctness of the view I have taken. It is this: *Lacharme* was walking in the garden of Mons., — a celebrated *Rose-grower* at Paris, and, seeing a *Rose* in bloom, asked what it was. He was told *John Hopper*. "Ah!" said he, "that is one of my seedlings. The year that *Charles Lefebvre* was sent out this *Rose* was growing alongside of it, and in executing an order for England my man took it up by mistake and sent it over." Now, I know Mr. Ward. I know him to be too honest a man to have acted such a lie; and I at once said, "This cannot be true, for I saw *John Hopper* before *Charles Lefebvre* had left *Lacharme's* nursery, for I well recollect Mr. Ward sending it up to the Floral Committee in 1860, and how disappointed he was at its non-recognition by them. I then told him that I was convinced it was a first-rate *Rose*, and to keep it and show it again. This he did, and with what result the world of rosarians knows full well." On my return to England, finding that the statement was being disseminated, I wrote to Mr. Ward, and his answer, which I have now the pleasure of placing before *Rose-lovers*, completely settles the matter. It will be seen that I sought the fullest information on the subject. "I do not wish to be robbed of the honour of raising *John Hopper*, and I much feel the position such a statement would place me in with the public if not contradicted. I shall be very glad to show any one the original seedling plant and parent of every *John Hopper* in existence, and my own production. I will now answer all the questions you have kindly put, and shall be glad to answer or prove any other any one may feel respecting the original of the plant.

"1. I raised the plant from seed in 1859.

"2. You saw the first blooms in September, 1860.

"3. I sent it out in the autumn of 1862.

"4. At the time I let it out my stock consisted of six thousand saleable plants and several thousands in a dormant state.

"5. I never in my life received a plant of any description from *Lacharme* or any other raiser or individual in France.

"*Charles Lefebvre* came out in 1862, at which time I had six thousand plants blooming of my *John Hopper*. I should have shown my *Rose* again in 1861, most likely have sent it out in the autumn of 1861 or spring of 1862; but I had a long illness—for four months in bed, which prevented it."

I think that this is quite overwhelming evidence, and I have every reason to think that when *Lacharme* knows it he will be quite ready to say he is wrong. I felt that our poor fame is injured by such misrepresentations, and hence my desire to sift it to the bottom. I have no doubt that, to my mind, the unwise custom of buying the stock of a *Rose* in France, and then sending it out here with an English raiser's name attached to it, leads the French *Rose-growers* to believe all our new *Roses* are of the same character: it is a very misleading practice.—D., Deal.

### EARLY PEAS.

SOME of your readers have, I see, favoured you with the results of their experience concerning different sorts of early Peas, and therefore it may not be out of place to give you mine also.

I sowed early in March last, within the same half hour and on the same ground, six rows of early Peas, each row 9 yards long, three rows of *Carter's First Crop*, two of *Sangster's No. 1*, and one of *Dillistone's Early Prolific*.

The Early Prolific seemed to be more affected than the others by the cold winds of our late and lingering spring, and did not thrive nor do well. I do not think we gathered from it a quart of pods, and I shall not grow it again. It was perhaps a couple of days earlier than *Carter's First Crop*. *Carter's First Crop* yielded also very badly, scarcely more than the

Prolific. These also I shall grow no more. They were ready, I think, two or three days before *Sangster's No. 1*. A serious circumstance attending their culture was that after a time their first growth made no further progress, but a fresh growth took place from the roots, reaching to be a foot high, but resulting in small blossoms and insignificant pods. The two rows of *Sangster's No. 1* yielded five or six times more than all the other four, and were very little behind them in time.

Mine is a garden of good soil, entirely unshaded by trees or buildings, wholly open to the south, east, and west, but sheltered by a high bank of fully 20 feet high from the north. Last year I grew for the early crop only *Sangster's No. 1*. Half of the seed I steeped as recommended by one of your correspondents, the other half I did not. The steeped Peas were ready for gathering fully a week before the others. I may add that with this year's crop no sticks were used.—THETA.

### PROPAGATING STAUNTONIA LATIFOLIA.

WE have a beautiful evergreen creeper, the *Stauntonia latifolia*, which seems to be little known, at least neither we nor our friends can procure any plants. Our plant nearly covers the front of our house, has had blossoms during the last three springs smelling deliciously like *Orange* flowers. In vain we have tried to give our friends cuttings. We have pegged down suckers near the root which we are told may in two or three years produce plants! We are trying also to bend some of the shoots into pots on a balcony, but these all wither away, so do the wooden branches which we try to bend down into the earth in the pots; yet every gardener who hears of this creeper and wishes to have some of it, says nothing is easier than to propagate it in this way. Can you give us any more instructions? This season for the first time, some little green pods like short caterpillars have appeared, but they seem to fall off without ripening.—A. A. Y.

[Select some of the finest flowers and disperse the pollen about the pistil. This is best done with a small camel's-hair brush. If the blooms are carefully fertilised they will readily produce seed, which is the surest way of propagating it, and the way is to select half-ripened shoots, cut a small nick just where the shoot is bent, then peg it firmly into the ground using plenty of sand about it. This will cause the roots to work freely. In fertilising the blooms select a day when there is plenty of electricity in the air.]

### MY PLANTS.

AND HOW AND WHERE I FOUND THEM.—No. 6.

I HAVE always combined a slight account of natural history with my botanical rambles, and the description of the knight in the "Ingoldsby Legends" would equally apply to myself. My delight as a girl was to pore over some unknown chrysalis, with two or three works upon butterflies and moths by my side; to bind up the broken limb of some unfortunate fowl; to refresh the leeches, newts, and beetles in a large wooden tub (in which I had made an imaginary island), with a shower of water from a large garden pot; or to watch the change of the tadpole into a frog, the same tadpole being kept for closer inspection in a water-bottle upon my dressing-table. I was up at six o'clock in the morning after the various kinds of cabbage butterfly, through the woods in the heat of the day for the highflyers, and out after dusk in the evenings with a lantern in search of moths. Cats, dogs, dormice, and hawks completed my small menagerie. These latter were the aversion of a favourite sister, and often would she laughingly prognosticate for me the ignoble fate of "Sir Thomas the good," who,

"Be it well understood,

Was a man of a very contemplative mood.

He would pore by the hour

O'er a weed or a flower,

Or the slugs that came crawling out after a shower.

Black beetles and humble bees, bluebottle flies,

And moths, were of no small account in his eyes;

An 'industrious flea' he'd by no means despise,

While an old 'daddy longlegs' whose long legs and thighs

Pass'd the common in shape, or in colour, or size,

He was wont to consider an absolute prize.

Nay, a hornet or wasp he could scarce 'keep his paws

Off.' He

Gave up, in short,

Both business and sport,

And abandon'd himself, tout entier, to philosophy."

Now having introduced you to the daily life of the "good



Sir Thomas," allow me for one moment to put before you the ignoble closing of his philosophical career, and also the moral, or a part of it, with which Thomas Ingoldsby dismisses his story. After waiting for "a fortnight or more" for her spouse, who had gone out upon one of his exploring expeditions, the Lady Jane's serving men discovered Sir Thomas's dead body in the adjacent pond.

"'Twas e'en so, poor dear knight, with his 'spees' and his hat  
He'd gone poking his nose into this and to that;  
When close by the side  
Of the hank he espied  
An 'uncommon fine' tadpole remarkably fat!  
Ho stooped; and he thought her  
His own—he had caught her!—  
Got hold of her tail, and to land almost brought her,  
When—he plump'd head and heels into fifteen-feet water!"

#### MORAL.

"All middle-aged gentlemen let me advise,  
If you're married, and have not got very good eyes,  
Don't go poking about after bluebottle flies!  
If you've spectacles, don't have a tortoiseshell rim;  
And don't go near the water unless you can swim!"

There is no doubt that natural history and botany are most absorbing subjects to those who delight in them, and that we have a world of interest which is not enjoyed by mankind at large. I was forcibly reminded of this the other day when seeking of a bookseller a small work upon Ferns and Grasses. In answer to my inquiries I was informed that "the subject was so unpopular it was useless to keep such books in stock, but that with pleasure he would order the work for me." Who does not know how the charm and freedom of some long-looked-for expedition have been marred by the presence of some uninterested individual, who, always foreboding evil in some form or other, becomes at length a perfect Jonah in the vessel, until he or she is got rid of?—not exactly by pitching the said personage out of the vehicle, because the finale might not be so satisfactory as it was in the case of the prophet of old, and to be indicted for manslaughter would be a sad termination to even such unsatisfactory beings as monomaniacal botanists—but by the quiet dispersion of detachments of the party to some devoted spot, leaving the aristocratic individual who eschews dirty hands, hard names, and uncomfortable-looking caterpillars and flies to the charity of some kind-hearted friend, and to lemon-coloured kid gloves and Byron.

Strangers in Jersey, nothing of this kind troubled us. Independent of everybody, we daily took some new walk, either in the interior of the island, through the lanes with their Ivy-clad banks, or towards the seacoast. The sea-weed is so abundant on the rocks around Jersey, that the inhabitants at certain times collect it for manure and fuel; and "vraicking," as it is called, is quite a gala time, men, women, and children all being engaged in it. I have seen whole families returning home late and wearied with their carts laden with sea-weed or "vraick." No hay-making scene in England can be more picturesque. Fish is exceedingly plentiful. Congers of different species abound amongst the rocks, some of them of an immense size and strength. A shell-fish, the *Auris marina*, or "Ormer," as it is called by the natives, is considered a great treat, although I think we did not appreciate it as much as our Jersey neighbours. The Alderney cows, of which we hear so much in England, are chiefly sent from this island; these with a few sheep and goats appear to comprise the short list of domestic animals of which the place can boast. We found it most difficult to obtain good English mutton whilst we were residing in St. Saviour's; and I feel sure that a good deal of that which was brought to us had more properly been designated "goat," the flavour was so strong and the meat so unpalatable.

There is one plant which immediately catches the eye of the newly-arrived visitor to Jersey. It is called the Jersey Cabbage. The plant grows to the height of 6 or 7 feet, and upon the top of this high stem is the Cabbage. A garden planted with these vegetables has the appearance of a miniature grove of trees. I believe they use the stems of the trees as walking-sticks. A most detestable combination which rejoices in the cognomen of "Jersey soup," was pressed upon us one day by our voluble French hostess. We politely refused the proffered luxury, as from the details of the ingredients therein used, we were more disposed to take her word for its merits than to try it; but she would take no nay. It was "*très bonne*." "*Mais, Madame!* You English are so much for *deer rosbif*! Every day it is meat of some kind. If I have the *soupe* I am content." I conclude it is the "*soupe maigre*" of the continent;

and *soupe maigre* it certainly is, being nothing but the water in which a piece of fat bacon and a Cabbage have been boiled.

One morning in strolling about the garden I saw what I considered was a humming moth flitting from flower to flower. It eluded all my attempts to catch it, and finally I lost sight of it altogether. I have since my return to England read of an insect which is peculiar to Jersey, and which "resembles a humming bird so much in its habits that it is considered of the same species. Its size is that of a large humble bee. It does not light on any plant, but continually fluttering with a loud humming noise, it introduces a long proboscis into the cup of a flower, and thus sucks out the moisture." I still am inclined to think that it is the same moth which goes under the name of "Humming Moth" in England, and which we see occasionally in our gardens flitting and dancing over the flower-beds like a fairy thing. Whilst speaking of beautiful things I must not forget to mention the lizards which are found upon the sunny banks of Jersey. I am just now alluding to that bright green kind which one sees, with its piercing eyes, peering out from between the stones, or lying basking at full length in the sun. They are exceedingly vigilant, and disappear upon the slightest approach of danger. They are, however, to be bought of boys, who stealthily lie in wait for them, and secure these pretty creatures. The tremendous size of the toads in the island is, I suppose, well known: the size of a breakfast saucer is about the usual circumference. I could even excuse the lady in the light kid gloves if she fainted at the sight of these hideous monstrosities. I would go even farther, and bathe her face with eau de Cologne, and read Byron to her during the process.—ALICE.

## ROYAL BOTANIC SOCIETY'S SHOW.

JULY 5TH.

This was the last of the Society's Shows for this season, and despite of the hot weather of the previous fortnight, the flowering plants were still in good bloom, though not looking so fresh as they did in May. Ferns and other ornamental-foliaged plants were in fine condition, whilst of fruit there was a very extensive and excellent display. The day being fine there was a large attendance of visitors.

**STOVE AND GREENHOUSE PLANTS.**—Although several very good collections were shown, the plants of which they were composed were nearly the same as at former shows. Of *Ixora salicifolia*, Mr. Whitbread exhibited a remarkably fine specimen covered from the base to the top with large heads of orange flowers; and a very good specimen also came from Mr. Peed. The white-flowered *Ixora alba* was likewise well represented in several collections, as well as *Ixora coccinea* and *javanica*. *Allamandas* consisted of *grandiflora*, *Schottii*, and *cathartica* in good bloom; and a *Stephanotis* from Mr. Fraser was covered with a profusion of its white blooms. Amongst other plants we noticed *Dipladenia splendens*, and *D. acuminata* with numerous flowers of a deeper rose; *Mussaenda frondosa*, *Kalosanthes*, *Hæmianthus punicens*, with sixteen of its showy orange scarlet leaves; *Cyrtocarpus reflexum*, *Statice*, *Heaths*, *Aphelaxes*, *Pleroma elegans*, *Vincas*, and *Dracophyllum gracile*.

**Awards.**—For sixteen: first, Mr. Peed, gardener to Mrs. Tredwell; second, Mr. Whitbread, gardener to H. Collyer, Esq., Dartford; fourth, Mr. Kaile, gardener to Earl Lovelace. For ten (*Nurserymen*): first, Mr. Fraser; second, Mr. Rhodes; third, Messrs. Lee; fourth, Messrs. A. Henderson & Co. For ten (*Amateurs*): first, Mr. Chilman, gardener to Mrs. Smith, Epsom; second, Mr. A. Ingram, gardener to J. J. Blandy, Esq., Reading; third, Mr. Page, gardener to W. Leaf, Esq.; fourth, Mr. Wheeler, gardener to Sir F. Goldsmid, Bart., Regent's Park. For six: first, Mr. Wheeler, gardener to J. Phillpot, Esq., Stamford Hill; second, Mr. Kemp, gardener to Earl Percy, Albany Park; third, Mr. Smith, gardener to A. Anderson, Esq.

**FINE-FOLIAGED PLANTS AND FERNS.**—Foremost among the former was a collection from Mr. Veitch, of Chelsea, containing a magnificent specimen of *Alcacia zebrina*, the dark green sagittate leaves about a yard in length, and the stalks beautifully marbled; also, two *Crotons* of large size and with the foliage beautifully coloured, the golden colour predominating in *C. variegatum*, whilst in *pictum* the red variegation was conspicuous, especially round the margin. Among the others were the variegated *Pandanus javanicus* with the leaves beautifully striped; the graceful *P. reflexus*, a noble *Dicksonia antarctica*, *Cyathea dealbata*, *Theophrasta imperialis*, *Chamaecrops exelsa*, and *Lutania borbonica*. From Messrs. A. Henderson & Co. also came *Alcacia zebrina*, and their fine *Alcacia macrocarpa variegata*, *Maranta Portuana*, the leaves prettily marked with white; *Anthurium leucocentrum*, with deep green leaves veined with white; *Croton angustifolium*, very ornamental from the weeping appearance which is offered by the narrow pendulous leaves; and a fine variety of *Caladium bicolor*. Mr. Bull likewise contributed a good collection, consisting of Ferns, Dracenas, and Palms. In the Amateurs' Class, Mr.



Baines exhibited a remarkably fine collection in which *Caladium Lowii*, *Alocasia metallica* and *microphylla variegata*, and the variegated *Croton* were the most striking. *Dicksonia antarctica* had a stem 8 or 9 inches in diameter, the head forming an umbrella; *Gleichenia speculnea* was also very fine. Collections containing large well-grown specimens were likewise exhibited by Mr. Taylor and Mr. A. Ingram, and smaller ones came from Messrs. Young and Carr. Among them, besides several species already noticed, were *Nepenthes Rafinesiana* with several pitchers, and a very good pan of the red-veined *Gymnostachyum Verschaffeltii*, from Mr. A. Ingram.

Of Exotic Ferns, excellent collections of healthy well-grown plants came from Mr. Barnard and Messrs. Young, among Amateurs; and Messrs. Bull, Williams, and A. Henderson, among Nurserymen. Of British Ferns, interesting collections were exhibited by Messrs. Ivory, containing many curious forms, especially of the Lady Fern and Hart's Tongue; two pretty varieties of the former being *Athyrium f. f. diffusum-multifidum* and *A. f. f. Purshianum*.

Awards.—For ten Fine-leafed Plants (Nurserymen): first, Mr. Veitch; second, Messrs. A. Henderson; third, Mr. Bull; fourth, Mr. Rhodes. For ten (Amateurs): first, Mr. Baines, gardener to H. Micholls, Esq., Boydon; second, Mr. Taylor, gardener to J. Yates, Esq., Highgate; third, Mr. A. Ingram; fourth, Mr. Young, gardener to R. Barclay, Esq., Highgate; fifth, Mr. Carr, gardener to P. Hinds, Esq., Byfleet. For twelve Exotic Ferns (Amateurs): first, Mr. Barnard, gardener to J. Taylor, Esq., Woodbury Down; second, Mr. Young, gardener to W. Stone, Esq., Leigh Park; third, Mr. Young, gardener to R. Barclay, Esq.; fourth, Mr. Taylor, gardener to J. Yates, Esq. For twelve (Nurserymen): first, Mr. Bull; second, Mr. Williams; third, Messrs. A. Henderson. For twelve British Ferns: first, Messrs. Ivory; second, Mr. Holland, gardener to R. Peake, Esq., Isleworth.

HEATHS were well grown and bloomed, but little can be added as regards the varieties to what has appeared in former reports. Of *Parmentieriana rosea*, Massoni, *Shannonia*, *Shavilleana*, *obtusata*, *eximia*, and others, very good specimens were shown.

Awards.—For ten: first, Mr. Rhodes; second, Messrs. Jackson; third, Messrs. Lee; fourth, Messrs. F. & A. Smith; fifth, Mr. Baxendale. For eight: first, Mr. Peed; second, Mr. Wheeler, gardener to J. Philpot, Esq.; third, Mr. A. Ingram; fourth, Mr. Chilman.

ORCHIDS were not so numerous shown as on the last occasion, nor, indeed, in such perfection. In collections of twenty, Mr. Bullen again sent *Brassia Henchmanni* in good bloom, several *Cattleyas* and *Aerides*, there being among the latter a very good *Aerides Lobbi*, *Oncidium ampliatum majus* and *Lanceanum*, *Cypripedium barbatum majus*, *Lycaste Skinneri*, *Lelia elegans*, *Trichopilia crispata*, in fine bloom; and *Uropedium Lindenii*, with two flowers, one of which had a tail 9 inches long. From Mr. Page came *Cypripedium Stonei*, with two of its handsome flowers; *Saccolabium Blumei*, with a fine spike of flowers; good *Phalenopsis*, including a small plant of *P. rosea*; *Vandas*, bearded *Cypripediums*, and *Aerides*. Mr. Penny had in his collection of twelve, *Cattleya Mossiae*, in fine bloom; *Angulosa Ruckeri*; *Aerides Lobbi*, fine; *Trichopilia picta*; five varieties of *Cypripedium barbatum superbum* and *Saccolabium guttatum*; the rich-coloured *Oncidium Lanceanum*; and *Aerides Lindleyanum*. In Mr. Wilson's collection, which was also excellent, *Trichopilia picta* was blooming freely, besides which there were *Cattleya superba*, brilliant in colour; *C. Schilleriana* and *C. Leopoldi*, both beautiful in colour; the brilliant *Disa grandiflora*, *Aerides odoratum*, &c. *Calanthe veratrifolia*, and *Renanthera coccinea*, in fine bloom, came from Mr. Hill.

Awards.—For twenty: first, Mr. Bullen, gardener to A. Turner, Esq., Leicester; second, Mr. Page; third, Mr. Peed. For twelve: first, Mr. Penny, gardener to H. Gibbs, Esq.; second, Mr. Wilson, gardener to W. Marshall, Esq.; third, Mr. Wiggins, gardener to W. Beck, Esq., Isleworth; fourth, Mr. Young, Leigh Park; fifth, Mr. Chilman. For six (Nurserymen): first, Messrs. Jackson. For six (Amateurs): first, Mr. Hill, gardener to R. Hanbury, Esq.; second, Mr. A. Ingram; third, Mr. Whitbread; fourth, Mr. Wheeler, gardener to J. Philpot, Esq.

PELARGONIUMS were good, considering the heat and the period of the season. Mr. Fraser had *Pericles*, *Bacchus*, *Lord Clyde*, *Bessie*, *Royal Albert*, *Prince of Prussia*, *Landseer*, *Perdita*, *Festus*, *Regina formosa*, *Marabout*, and *Desdemona* in good bloom; and in the Amateurs' class, Mr. Bailey had by far the best. They consisted of *Guillaume Severens*, *Desdemona*, *Beneon*, *Royalty*, *Etna*, *Pericles*, *Mademoiselle Patti*, *Scarlet Floribunda*, *Regina formosa*, and *Conflagration*. In *Fancies*, Mr. Fraser was the only exhibitor. His varieties were *Cloth of Silver*, *Madame Sainton Dolby*, *Miss-in-her-Teens*, *Bridesmaid*, and *Roi des Fantaisies*. Mr. Catlin exhibited some very good *Scarlets*.

Awards.—For twelve: first, Mr. Fraser. For ten: first, Mr. Bailey; third, Mr. Wiggins. For six *Fancies*: first, Mr. Fraser. For six *Scarlet*: first, Mr. Catlin, gardener to Mrs. Lermite, Finchley; second, Mr. Pettit, gardener to G. Powney Esq.; third, Mr. Hawes, gardener to J. Noble, Esq., Fortis Green; fourth, Mr. Weir; fifth, Mr. J. Logan.

FUCHSIAS.—The plants of these were not large, nor was the bloom first-rate. Among the best of the white-sepal varieties were *Rose of Castille*, and *Minnie Banks*; of those with white corollas, *Madame Cornelissen*; and of dark kinds *Sir Robert Peel*. Messrs. E. G. Henderson exhibited several of Mr. Banks's varieties, as *Puritani*, white

corolla, *Charming*, a fine dark kind; *Laerozia Borgii*, very large flowers; *La Favorita*, and *Sunshine*.

Awards.—Second, Mr. J. Weston, gardener to D. Martineau, Esq., Clapham Park; third, Mr. Gardiner, gardener to J. Stutter, Esq.; fourth, Mr. Green, East Greenwich.

ROSES.—There was a good display of cut blooms, among which were some of the new *Tea* *Maréchal Niel*. Of others there were very good examples of *Charles Lefebvre*, *Gloire de Saintemy*, *François Louvat*, *Madame Charles Wood*, and *Isabella Gray*.

Awards.—For fifty: first, Mr. Turner, and Messrs. Paul & Son; second, Mr. Fraser. For twenty-five: first, Mr. Exill, gardener to J. Hollingsworth, Esq.; second, Mr. Ingle, gardener to G. Round, Esq., and Mr. Wright, Twickenham. For twenty-four: first, Mr. Turner; second, Messrs. Paul & Son; third, Mr. Fraser.

NEW PLANTS.—Interesting groups of these were furnished by Mr. Veitch, and Mr. Bull. Mr. Veitch had his new *Rhododendrons*—*Princess Royal*, and *Princess Alexandra*, both of which are very fine; *Leptopteris superba*, very beautiful; *Bertolonia*, *Urcellina aurea*, *Cattleya quincolor*, noticed last week; *Osmanthus ilicifolius*; *Sciadopitys verticillata*, a handsome plant; *Antiumium Scherzerianum*, *Calathea Veitchii*, and some others. Mr. Bull had a singular plant, stated to be an Indian Radish, with edible pods having the same flavour as a Radish. These, it is stated, grow 3 inches in a night, and attain the length of 3 feet or more. *Globba radicans variegata*, the leaves streaked with yellow; *Spharogyne cinnamomea*, *Cycas Ruminiana*, *Bertolonia marginata*, variegated *Verbenas*, and *Chrysanthemums*, as well as several Ferns, and a pretty *Lobelia* called *Silver Gem*, with white and blue flowers, the white largely predominating, came from the same exhibitor. New Clematises were shown by Messrs. Jackson, and Mr. Townsend; and *Trichium Manglessii*, a pretty Swan-River plant by Mr. Thompson, of Ipswich. This was described in these columns some time ago, and a representation of it was given in the "Florist" of October. Mr. Thompson states that it will succeed out of doors. Messrs. E. G. Henderson sent *Fuchsia Enoch Arden*, with a large dark corolla, and bright scarlet sepals, and *Gardenia florida variegata*; Mr. Smith, Hornsey Road, La Grande Pelargonium, a promising scarlet *Neosegy*; Messrs. F. & A. Smith, *Orion Zonale Pelargonium*, with salmon flowers; Mr. Morse, Epsom, *Scolopendrium vulgare* *Coppardi*, a fine crested variety; Messrs. Ivory, *Athyrium f. f. diffusum*, *Lastrea f. m. grandiceps*, and *Polystichum proflerum* *Holeia*, all of which are desirable additions; and Mr. Williams, a fine *Dracaena lineata*, Ferns, and Aloes.

MISCELLANEOUS.—Mr. W. Paul sent his new *Neosegy Pelargoniums* in fine bloom; Messrs. Saltmarsh, some of the tricolor-leafed class; Mr. Fraser, *Kalosanthos*, in fine bloom; Messrs. F. & A. Smith, a showy collection of Balsams; Mr. Baines, gardener to H. Micholls, Esq., *Sarracenia Drummondii*, *purpurea*, *lava*, and *varicoloris*, fine *Anacothilis*, and the curious *Dionaea muscipula*. *Carnations* and *Pioteles* from Mr. Turner were very fine; Messrs. Downie & Co., had fine *Hollyhocks*; and Mr. Perry, seedling *Verbenas*, of which Charles Turner, Mazeppa, Cleopatra, and Glowworm, were excellent. *Caladiums*, and hanging baskets, neatly filled, came from Messrs. A. Henderson & Co.; and from Mr. Barnes, Bieton, a fine collection of cones, produced this year at Bieton, including those of *Araucaria imbricata*, *Picea Nordmanniana*, *Abies domosa*, and many others.

#### FRUIT.

The display of Fruit was very large, and most of the objects were characterised by great excellence. It was, to a large number of visitors, the most attractive feature of the Show; the plants, many of them, had been seen before, but such fine fruit, and in such quantity, has rarely been seen.

In collections, Mr. Sage, gardener to Earl Brownlow, Ashridge, was first with fine bunches of Black Hamburgh and Muscat Grapes, the latter well ripened, a good Queen Pine, a Melon, Royal George Peaches, Elrige Nectarines, Brown Turkey Figs, and British Queen Strawberries. Mr. Miller, gardener to Earl Craven, Combe Abbey, sent two fine Queen Pines, Black Hamburgh and Trentham Black Grapes, Canon Hall, not sufficiently ripe; a large Melon, fine Peaches, and British Queen Strawberries. Mr. Ruffett, gardener to Lord Palmerston, had a fine Providence and two Queen Pines, excellent Peaches, and Black Tartarian Cherries. Good collections likewise came from Mr. Bannerman, Mr. Dawson, and Mr. Lynn, Heddon.

Awards.—First, Mr. Sage; second, Mr. Miller; third, Mr. Bannerman, gardener to Lord Bagot, Rugeley; fourth, Mr. Dawson, gardener to Earl Cowper, Panshanger.

PINES were not very numerous, but some good fruits were shown. For a collection of four Mr. Barnes was first with a fine Providence, a Prickly Cayenne, Queen, and Ripley Queen; Mr. Young, Leigh Park, was second with two Providences, a Queen, and an Enville; Mr. Dawson third. Mr. Barnes sent, in addition, a collection of Pines ripened in the open air, and, to all outward appearance, well ripened. They consisted of Brown Antigua, Enville, Queen, and Lemon Queen. Though the climate of Devonshire is doubtless favorable to such an attempt, and so excellent a Pine-grower as Mr. Barnes is well known to be the most likely to achieve success, it would be interesting to know the mode of culture which he adopted in this particular case. Some very good Queens, upwards of 4 lbs. in weight, were shown. Mr. Young, gardener to Crawshay Bailey, Esq., was first with a large and fine fruit; Mr. Davis, gardener to W. Booker,



Esq., Cardiff, second with one of 4 lbs. 3 ozs.; and Mr. Kemp, gardener to E. Bentall, Esq., Maldon, third. Good fruit were also shown by Mr. Carr, Mr. Barnes, and Mr. Bailey. Providence, though of good size, were not handsome. Mr. Young and Mr. Deville were equal first; Mr. Allen, gardener to J. B. Glegg, Esq., second with a cocks-comb-crowned fruit; Mr. Dawson third. In the class for Any other variety the first prize was withheld; the second went to Mr. Bailey for a Prickly Cayenne; the third to Mr. Godfrey, gardener to H. Cluck, Esq., Ware.

GRAPEs.—Rarely, if ever, have finer bunches than those shown been collected together at any one exhibition.

The Black Hamburgs were magnificent. Mr. Sage, gardener to Earl Howe, was first with large beautifully finished bunches with very large berries of a jet black; Mr. Meredith second, with magnificent bunches, the centre one in particular, the three weighing 8 lbs., but a still more extraordinary exhibition was that which was put up by the same celebrated grower in the Miscellaneous class, being a single bunch with six shoulders, each as large as an ordinary bunch, finely coloured, and weighing  $9\frac{1}{2}$  lbs. Such a weight in a single bunch of this variety has never, to our knowledge, been recorded before, and the Judges awarded it the highest prize which it was in their power to bestow. Third prizes were awarded to Mr. Wallis, gardener to J. Dixon Esq., Astle Park; to Mr. Henderson, gardener to Sir G. Beaumont Bart., Cole Orton Hall; and Mr. Speed, gardener to Sir E. Walker Bart.; and fourth prizes to Mr. Sawkins, Mr. Jackson, and Mr. O. Goldsmith, all of whom had good well ripened bunches. Mr. Rawbone, gardener to C. Campbell Esq., Ashbourne, had three very fine bunches weighing 9 lbs. 5 ozs., but they were unripe. A splendid basket of the same Grape, also from Mr. Meredith, had a first prize, and one of 14 lbs. from Mr. M. Henderson a second, and the third was taken by Mr. Wallis.

Muscats were not sufficiently ripe; the best were fine large-berried bunches from Mr. Turner, who received a second prize. There were, however, several good bunches from other exhibitors. In Three dishes of different varieties there were several fine exhibitions. Mr. Meredith was first with Trentham Black, Black Hamburg, and Black Prince, magnificent bunches of the largest size and beautifully coloured. A second prize was given to Mr. Hill, Keele Hall, for Black Prince, fine, the three weighing 8 lbs. 2 ozs.; Black Hamburg, 5 lbs. 7 ozs.; and Black Alicante (Meredith's variety), 5 lbs. 12 ozs., one of the bunches remarkably fine. Another second prize was awarded to Mr. Osborne, Finchley, for Black Hamburg; Buckland Sweetwater, finely ripened; and Muscat Hamburg, very fine. Mr. Peachey, gardener to R. Hole, Esq., Loughborough, was third with Red Frontignan, Golden Hamburg, and Black Hamburg; and Mr. Wallis, fourth, with Black and White Frontignans, and Black Hamburgs. Several other good dishes were set up by other exhibitors.

Of other kinds, fine bunches of Black Prince were shown by Mr. Allen, Mr. Sage, Mr. Pottle, and Mr. Hill, those from Mr. Pottle weighed 9 lbs. 5 ozs., but were not sufficiently ripe. Mr. Allport, gardener to H. Akroyd, Esq., Doddington Hall, had Ingram's Prolific Muscat and Black Frontignan, very good; and of Buckland Sweetwater remarkably fine bunches were shown by Mr. Meredith, but they were apparently not ripe enough. From Messrs. Lane came good bunches of Chavonsh and Royal Muscadine. For the above the following awards were made:—For Black Prince: first, Mr. Allen, gardener to E. Hopwood, Esq.; equal third, Mr. Wallis and Mr. Sage. For other kinds: first, Mr. Allport; second, Mr. Hyde; third, Mr. Goldsmith; fourth, Mr. Peachey; fifth, Mr. M. Henderson.

PEACHES AND NECTARINES consisted of Royal George, Bellegarde, and Violette Hative Peaches, and Elruge and Violette Hative Nectarines. Several of those to which prizes were awarded were large and highly coloured.

Awards.—For four dishes: first, Mr. Allen, gardener to J. B. Glegg, Esq.; second, Mr. Hill, Keele Hall; third, Mr. Rawbone; fourth, Mr. Enstone. For two dishes: first, Mr. Carr; second, Mr. Sawkins; Mr. Roberts, gardener to Hon. A. Barry, Tullamore; and Mr. Sage, gardener to Earl Brownlow; third, Mr. Ward, gardener to F. Martin, Esq., and Mr. Ruffett; fourth, Mr. Ford, gardener to Rev. T. Hudson, Watton; Mr. Young, Leigh Park; Mr. Enstone; and Mr. Budd, gardener to the Earl of Darley.

MELONS.—There was a good show of these, and they were for the most part well grown, but many of them we are informed were rather inferior in flavour. Gem was the principal variety shown in the Scarlet-fleshed class.

Awards.—For Green-fleshed: first, Mr. Enstone, gardener to Sir J. Duckworth, Bart.; second, Mr. Earley, Digswell. For Scarlet-fleshed: first, Mr. Gadd, Dorking; second, Mr. Weir, gardener to Mrs. Hodgson, Hampstead.

CHERRIES.—Several excellent dishes of Bigarreau and Elton were shown, and of the Black Tartarian or Circassian, beautiful examples came from Mr. Turner and Mr. Ruffett.

Awards.—For Black: first, Mr. Turner and Mr. Ruffett; second, Mr. Pottle, Mr. Carr, Mr. Marcham, and Mr. Sawkins. For White: first, Mr. Enstone and Mr. Widdowson; second, Mr. Turner, Mr. Perkins, Mr. Ross, Mr. Sage, and Mr. Marcham.

MISCELLANEOUS.—Figs consisted of good dishes of Brown Turkey and White Ischia; Plums, of Jefferson and Victoria. Of Strawberries, Sir Charles Napier, Filbert Pine, Admiral Dundas, British Queen, Bieton White, and some others were very good. Raspberries

came from Mr. Young and Mr. Cutbush, of Highgate, the latter showing Prince of Wales and Princess Alice; excellent baskets of Peaches from Mr. Osborne, Finchley; and some fine Nectarines from Mr. Henderson, and Mr. Masters, gardener to the Earl of Macclesfield. Messrs. Lane had a good collection of fruit trees in pots, and Mr. Turner contributed a seedling Strawberry called Dr. Hogg, for which a first-class certificate was awarded.

Awards.—For Figs: first, Mr. Orman, gardener to R. Holland, Esq.; second, Mr. Sage, gardener to Earl Howe; and Mr. Hutt. For Plums: first, Mr. Robins, gardener to Sir G. Kerrison, Bart.; second, Mr. A. Ingram. For Strawberries: first, Mr. Bailey; second, Mr. Widdowson; third, Mr. Budd; fourth, Mr. Kaile.

## THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE Anniversary Meeting was held at the London Tavern on Friday the 7th inst., J. R. Jeffery, Esq., of Woolton Hall, Liverpool, in the chair. Among those present were Mr. Serjeant Atkinson, Colonel Scott, R.E., Colonel Burnaby, Grenadier Guards, Donald Nicoll, Esq., Colonel Jeakes, Captain Fox, G. F. Wilson, Esq., G. Child, Esq., R. Wrench, Esq.; Messrs. J. & C. Lee, Fraser, Williams, Turner, Gray, Ormson, and Taylor.

THE CHAIRMAN said that he proposed, with much pleasure and heartfelt sincerity, the health of the Queen. The next toasts were the Prince and Princess of Wales, and the rest of the Royal Family; and the Army, Navy, Volunteers, and Naval Reserve, coupled with the name of Colonel Burnaby.

COLONEL BURNABY, in returning thanks for the Army, said that it had been the custom of his regiment for two hundred years to have a dinner once a year, and His Royal Highness the Commander-in-chief had then said that the efficiency of the Army was all that he could desire. Mr. Cutler, the Secretary, returned thanks for the Navy, in which he had served when a youth; Col. Jeakes and Captain Fox for the Volunteers; Captain Shaw for the Naval Reserve.

THE CHAIRMAN then proposed the health of the Patron of the Institution, the Duke of Buccleuch, observing that nothing could be more encouraging than to have among the promoters of the Institution gentlemen of such extensive landed possessions.

THE CHAIRMAN said he had next to propose to them the toast of the evening, "Prosperity to the Gardeners' Royal Benevolent Institution," but before proceeding to do so he had to apologise for having left at Liverpool a large per-centage of his voice, but what was left was at their service. The Institution was one of an unpretending character and had not to contend with poverty, nor was it embarrassed with too much riches. It was blessed with one of the most persevering and industrious of Secretaries. When Mr. Cutler called on him (the Chairman) his diffidence and modesty induced him to decline the honour of filling the position which he held that evening, but such were the Secretary's persuasive powers and perseverance, that he (the Chairman), at length accepted the post, believing that the duties he would have to perform would be light. On second consideration he found that the task he had undertaken was by no means so easy, for he found he was called on to strike with Aaron's rod that hard rock their pockets, to cause them to flow in a refreshing stream to those who were dependant on the Institution. He was given to understand that there were fifty-seven of these, of whom thirty were females, and that they averaged the great age of seventy-six. If those present, or, indeed, the most wealthy in the kingdom were asked to forego indulgence in the fine arts or in the pleasures of a garden, there were few who would not prefer to give up the former in preference to the latter; and if so, was it not a duty, was it not necessary and desirable, to make the latter days of those who so ministered to our enjoyments happy? The Institution was, *par excellence*, a benevolent institution, not one of those of which there were too many instances in which the sober man was chained to the drunkard, the frugal to the improvident, and he urged its claims to support. Each person present could contribute one stone to the edifice. The stone might be called by any name they choose, a coin of the realm if they liked, and each would have the satisfaction of contributing to the support of an institution which did a great amount of good. He found that the annual expenses were £800, and though the balance sheet was £316 in favour of the Institution, £300 of that sum must be forthwith dispensed to those who were dependant on the funds. The Institution was established in 1838, but scarcely came into life till 1842, when the present Secretary came into office. He (the Chairman) was surprised to find the large amount which had been distributed in that time, some £12,700, and yet there was a reserve in the Stocks of £5,700. He believed those present would agree with him in the hope that this sum would be doubled in half the period to come. He commended most ardently, most sincerely, the claims of the Institution to support.

The healths of the Chairman, Mr. Wrench (the Treasurer), Mr. Cutler (the Secretary), were then drunk; and among other toasts given were the Nursery and Seed Trade, the Stewards, and the Ladies. The amount collected was about £380, of which the Chairman and his friends contributed £80. The proceedings were enlivened by some good music from Miss Poole and Mr. Perren. There was a handsome dessert, and a variety of ornamental plants for the decoration of the room, these last coming from Messrs. Lee and Smith.



## ROYAL HORTICULTURAL SOCIETY.

JULY 8.

THE Show of Ornamental and Variegated-foliaged Plants and Scarlet Pelargoniums, on Saturday last, was probably the most extensive and best of the minor shows held this year, though, doubtless, the general effect would have been improved by the introduction here and there of flowering plants, to relieve the monotony of so much green foliage.

In Class I., twelve stove and greenhouse plants with ornamental foliage, Mr. Baines, gardener to H. Micholls, Esq., was first with a remarkably fine collection, nearly the same as that which he exhibited at the Regent's Park, and which is noticed in another column. Messrs. Lee were second with an excellent collection, in which were *Alocasia metallica*, very fine, *Theophrastus*, *Rhopala*, *Dracena indivisa*, variegated *Yucca*, and *Ananassa*, a fine Bird's-nest Fern, *Alsophila australis*, *Oreopanax dactylofolium*, and *Cordyline indivisa*. Mr. Bull was third with a collection, in which we noticed tall specimens of *Dracena australis* and *Rhopala coreovidensis*, *Dicksonia antarctica*, and other Ferns, and the cinnamon-stemmed *Spharogyne*. Mr. Carr, gardener to P. Hinds, Esq., Byfleet, had an extra prize for a collection in which were a magnificent example of the Sugar Cane, *Saccharum officinarum*, *Cissus discolor*, *Spharogyne latifolia*, and *Musa Cavendishii*, in the culture of which last he is an adept.

In Class II., six plants, equal first prizes were given to Mr. Donald, gardener to J. G. Barclay, Esq., Leyton, and Mr. Baines, the latter exhibiting his fine *Sarracenia* and *Amnetochils*, noticed in the report of the Royal Botanic Show. Mr. Donald had a fine specimen of the white variegated *Alocasia macrorrhiza*, variegated *Croton*, *Maranta zehrina*, *Alocasia zehrina*, and *Dicksonia antarctica*. From Mr. Young, gardener to R. Barclay, Esq., who was second, came a large and fine *Alocasia metallica*, the pretty white-blotched *Caladium argyrites*, a *Rhopala*, and *Dieffenbachia*; and in a collection from Mr. Taylor, gardener to J. Yates, Esq., Highgate, were the Rush-like *Littaea juncea*, *Cirello recurvata*, and *Maranta zehrina*.

In Class III., six plants (Nurserymen), Messrs. Lee were first with a fine *Alocasia Lowii*, *Dracena indivisa*, *Croton pictum*, *Latania rubra*, *Rhopala coreovidensis*, and *Cyathia Smithii*; and Mr. Bull second with, among others, a handsome *Arancaria* called *gracilis*.

Classes IV. and V. were for *Dracenas* and *Cordylines*. These chiefly consisted of *Dracena terminalis*, *ferrea*, *draco*, *rubra*, *australis*, *stricta*, *arborescens*, *Cooperi*, *heliconifolia*, *Veitchii*, and *Cordyline indivisa*. The first prize in the Nurserymen's class was taken by Mr. Bull, the second by Messrs. Lee; and in the Amateurs' class Mr. Donald was first, Mr. Barnard, gardener to J. Taylor, Esq., second, and Mr. Young third.

In Class VI. nine Palms, Mr. Bull was the only exhibitor; among those which he exhibited were *Euterpe edulis*, *Seaforthia elegans*, *Brabea dulcis*, and the *Date Palm*.

In the Amateurs' Class VII., very fine specimens of *Cycas revoluta* were exhibited by Mr. Taylor, who also had a gigantic *Sabal Blackburniana*; and Mr. Young had the *Date Palm*, *Chamærops chinensis*, and a large plant of *Thrinax elegans*.

*Caladiums* shown in Class VIII. were not remarkable for their novelty. Of kinds with red markings, we noticed *Chantini*, *Wightii*, *peccile*, *bicolor splendens*, and *Schmitzi*; and of others *argyrites*, *Belleyei*, and *Lowii*. Mr. Carr was first, Mr. Young second, and Messrs. Lee third.

For a collection of twelve hardy variegated plants, a first prize was awarded to Mr. Salter for the variegated *Sedum Sieboldi*, Japanese Honeysuckle, *Ivies*, *Coltsfoot*, *Fortune's Bamboo*, *Jasmine*, *Sedum telephium*, and others; and the second to Mr. Bull for *Aucubas*, *Eurya*, *Euonymus*, and his variegated *Chrysanthemum* and *Verbena*.

The show of *Zonale* and other *Pelargoniums*, was tolerably effective, though the plants were not at their best as regards bloom. For twelve kinds of any colour, Mr. Fraser was first with good plants of *Herald of Spring*, *Clipper*, *Roi d'Italie*, *Amiral Protet*, *Malakoff*, and *L'Abbé Krensi*, scarlet; Mr. Rendatler, *Engnie Mezard*, *Souvenir de Naney*, and *Henri Etienne*, different shades of salmon; *Virgo Marie*, white, and *Rose Rendatler*. Among those from Mr. Salter, who was second, were *Amelina Grisean*, a fine large white with a large salmon eye, *Mulle*, *Marie Mezard*, white, *Germania*, orange scarlet, and *Beauté de Suresnes*, a very good deep rose.

In the Amateurs' Class for six, Mr. Ward, gardener to W. G. Wilkins, Esq., Leyton, was first; Mr. Hawes, gardener to J. Noble Esq., Finchley, second.

Among variegated *Geraniums*, Mrs. Pellock, *Glowworm*, and *Sunset* were the best of the tricolor-leaved varieties; *Alma*, *Mountain of Snow*, and some others of the white-variegated kinds were also exhibited in good bloom. The only collection of *Nosegays* entered for competition came from Mr. Salter. Mr. Fraser and Mr. Hally were first and second for variegated *Geraniums*, and Mr. Ward first for six in the Amateurs' Class.

Of Miscellaneous objects, Messrs. Lee exhibited good mixed collections of *Heaths*, *Orchids*, *Ferns*, *Ixoras*, and *Statice*; Mr. W. Paul and Mr. Clarke, several boxes of *Roses*, the former also showing *Beaton's Geraniums*; Messrs. Downie, *Laird and Laing*, fine *Hollyhock* blooms; Mr. Salter, hardy *Ferns*; Mr. Bartlett, *Hammer-smith*, very fine pans of *Adiantum cuneatum*; Mr. Bull, the *Radish* noticed in another column; Mr. Thompson, *Ipswich*, *Trichium Manglesii*; Mr. Catlough, *Chelsea*, *Lilium auratum*; Mr. Hooper, *Bath*, *Carna-*

*tions* and *Picotees*; and Mr. Taylor, *Highgate*, the singular fruit of *Dion edule*, a cone measuring about 17 inches by 9 in diameter. Messrs. E. G. Henderson had new *Fuchsias* of 1865, consisting of *Father Ignatius*, *Enoch Arden*, *Roderick Dhu*, and *War Eagle*, all having violet purple corollas and reflexed scarlet sepals; *Light Heart*, with a blackish purple corolla; and *Rose of Denmark*, and *Lucey Mills* light kinds. A *Rose* bedding *Verhena* called *Ariel*, and *Pink Stella Geranium* also came from the same firm.

Fruit was represented by a good *Queen Pine* from Mr. Ford, gardener to W. Hubbard, Esq., and three dishes of *Black Currants*, one kind being a seedling which is said to hang a month later than any other sort; and from the Society's garden came a collection of forty sorts of *Gooseberries*.

Miss Smith, Footing, exhibited some beautifully-executed artificial flowers, and Mr. Lowe, Maida Hill, a neatly-filled plant case. A fine *Phenocoma prolifera* *Barnesii* came from Mr. Baines, and a variegated *Aloe-leaved Yucca*, an excellent specimen, from Mr. Bull.

## POTTED VINE UNFRUITFUL.

I HAVE in a large pot a Vine which I am growing in a cool greenhouse. It has made shoots from about 1½ to 2 yards long. It has no fruit on. Last year the wood did not get well ripened, and I want to be sure of ripening it thoroughly this year. Would it be advisable to turn it out of doors, exposed to the air and sun now, to ripen the wood? I do not alter the temperature of the house in the least on account of the Vine, but keep it as cool as possible and moderately shaded. The Vine will be two or three years old, and I suppose I might get some fruit next year.—*EBORACUM*.

[As your house is kept cool and shaded, the best thing you can do, is to choose a dull day and take your Vine in its pot and place the stem against a south wall or fence, giving all the sun possible, and lessening the application of water after September.]

## CHINESE GARDENING IN AUSTRALIA.

THE class of Chinamen most useful to their European neighbours, next to the miners, who are adding to the wealth of the country, are the gardeners. There are few townships in the colony the inhabitants of which are not mainly dependant on the Chinese for a constant and regular supply of fresh vegetables of the very finest quality. Such, at least, may be said to be the case on the gold fields. Any idea of competing with the Chinese among our gold-fields townships, in the production and sale of vegetables, appears to be pretty generally abandoned; and, although farmers will bring *Cabbages*, *Pumpkins*, and such like to the weekly markets, the Chinamen may be seen moving from door to door, by seven or eight o'clock every morning, laden with fresh green esculents. At all seasons, and in every description of weather, the Chinese gardener has some kind of vegetable for sale. Neither heat nor cold, drought nor rain, affects this regular supply. There are a great many of those vegetable gardens in various parts of the Castlemaine district, being so distributed that it would seem as if it had been arranged that enough of vegetables should be reared by Chinese, in each locality, to supply the whole of the surrounding neighbourhood. The number of Chinamen employed in each is generally about from four to six, and all appear to have an equal interest in the business. Each has allotted to him the particular duties which he has to perform. One hawks the vegetables and collects manure; another is employed chiefly in weeding; a third in watering, and a fourth in digging, preparing the plots and sowing the seeds. These arrangements once made are rigidly adhered to, and are universally carried out in the most amicable spirit. In this respect they set an example worthy of imitation by many Europeans. There is never any wrangling or jealousy among them, and one is not to be found complaining that he has too much work to perform, and that his partners do less than he. You will never find the Chinaman in a hurry; but, at the same time, he never loses a minute, and works on steadily from early morning until the light fails him at night, for he has never dreamed of an eight-hour movement.

The Chinese are most successful gardeners, or rather farmers; for in their gardens in this colony we really get a specimen of Chinese agriculture. Although we make a distinction between farming and gardening, and conduct them differently, there is no such distinction made in China, every foot of which is cultivated with as great carefulness as we find displayed here



on the land on which they grow vegetables. The Chinese are universally acknowledged to be the best agriculturists in the world. They may not be able to understand the chemical properties of the soil or of manures, but a Liebig could not surpass them in selecting the one, or in choosing and in preserving and improving the qualities of the other. Probably, for more than a thousand years, they have carried on the same systems that they carry out now, and have learned, by experience, what modes of culture and what manures, &c., are most effective; and the analyses of the European chemist confirm the practices they have adopted as being the best. The Chinaman does not know what are the scientific causes, but he knows that, by certain processes, he can produce certain results. If any unexpected difficulty arises, the Chinaman endeavours to overcome it by the most natural and simple means, however laborious. If blight afflicts his Cabbages, he washes it off the leaves with soap and water; if he be troubled with grub, caterpillars, beetles, or other insects, he does not attempt to destroy them by any solution, or with kerosene and other substances that have been tried by Europeans, but he gathers them all carefully and destroys them; sometimes before sowing or planting, putting blades of any vegetable into the ground to entice them, in order that they may be caught. Steady, patient labour is the only means of which he can conceive by which to overcome such obstacles. He has never thought of adopting means to save time and labour. The necessities of the case, no doubt, led the Chinese to discover methods by which they could get their country to grow a sufficiency of agricultural products to feed the teeming millions of their population. Agriculture has received much encouragement from the Chinese Government, and at an early period in Chinese history the various modes of cultivation were taught to his subjects by an emperor named Nung, so that a husbandman, or farmer, is designated in Chinese by the word Nunggin. As every one is aware, the Chinese are divided into a number of grades, castes, or classes, in accordance with the profession or trade in which they are employed. The second place on the list was given to agriculturists, "the learned men," or members of the learned professions, as we would say, alone taking precedence of them. This fact shows with how much respect the husbandman is regarded by the population who are dependant on his labours for the means of subsistence. Every house or tent in the district inhabited by Chinamen is supplied by the gardeners with jars, to be used for the same purpose as the tanks referred to in China. The gardener goes round every day and collects the contents; and, so much is it valued, that serious quarrels will sometimes arise if one gardener attempts to appropriate anything of this nature which another considers to be his.

While on this subject, it may be mentioned that such liquid manure as the Chinaman collects in his jars is, perhaps, more valuable than any other description, the quantity of nitrogen contained in 100 parts of it being, according to chemical analysis, equal to 1300 parts of stable manure or 600 parts of manure from the byre. The latter kinds of manure are likewise used by the Chinese gardeners, and when they come into town after disposing of their vegetables, they collect the compost, and carry it home with them. Wherever they can find any, they pick it up, and may sometimes be seen gathering it on the commons. The bulk of their supply, however, they obtain from such of their countrymen as keep horses for working their puddling machines, giving some vegetables in exchange. It is used chiefly as a top-dressing, and the effect of its being so used, along with the straw in it, is that, as is well known to most horticulturists, it prevents the surface of the soil from being baked by the heat of the sun, and cracks and fissures formed. It likewise assists in retaining moisture.

The Chinese display much skill and intelligence in the choice of their garden ground, both as regards the character of the soil, and the nature of the situation. The first consideration with them is the supply of water, and they choose a site therefore on the bank of a creek, in which they may obtain water in the driest seasons. Failing this, they must have wells dug in their gardens, from which they can get a constant supply of pure water. The gardens are models of neatness, and *ex uno disce omnes*, for they all exactly resemble each other. They are thoroughly clear of weeds, and all the vegetation is so fresh and verdant in appearance that, in a warm season like the present, they are most refreshing to the eye. The ground is prepared by being trenched to a depth of from 2½ to 3 feet. The garden is divided by a number of narrow walks into long beds or plots, which are of such a width that the gardener, sitting,

or rather crouching by the side of it, as the Chinese do, can easily stretch half-way across the plot, so that he can weed it without having to step on the plot. The beds are raised to a height of about 8 inches above the level of the walks. It has to be observed that the soil is always beautifully pulverised, and it may be presumed that it would be sufficient to drive a Chinese gardener frantic if any one were to tread and leave a footprint on his plot. If the reader would wish to see how a Mongolian can run, and how thoroughly his habitual equanimity can be disturbed, he must have an opportunity of seeing a goat break through the fence and get into his garden. They have a pride in their gardens, and respect for them amounting almost to reverence, and will take off their shoes before walking through them. A careful housewife could not be more proud and jealous of the furniture of a fashionable drawing-room.

An observant visitor to a Chinese garden might observe what would appear to be a careless mistake—namely, that while the most of the paths dividing the plots are of unswerving straightness, a few are slightly curved. The intention appears evidently to be that each series of plots should, by the nature of the lines that divide them, represent the character or symbol which is used for the Chinese word signifying a "field." The outline of the symbol referred to is a square with two lines running from side to side and from top to bottom of it, and crossing each other at right angles. The upward line and the sides of the square are perfectly straight, but the horizontal line is slightly curved, corresponding in this respect exactly with the curved paths referred to in the garden. There can be no doubt as to the intention of Chinamen in this respect, but when questioned as to their motive or object for adopting such a fanciful arrangement, they either cannot or will not understand. Indeed, although naturally polite and apparently frank, at least to an acquaintance or customer, the Chinese gardener is not a communicative gentleman. Probably he fancies that, having been from childhood familiar with all those things on which he is questioned, his interrogator must also know of them, and he may assume that the ignorance is feigned. If surprise be expressed or displayed, it is amusing to observe the curious smile which lights up the face of the Chinaman; good-humoured it is undoubtedly, but there is a certain air of condescension, mingled with satisfaction, and he seems to be amused with the idea that his immense superiority should so astonish the ignorant "barbarian."

The most of the Chinese gardens in the Castlemaine district are on land that has been alienated from the Crown, and for which they pay tolerably high rents. They do sometimes occupy Crown lands under business licenses, and their objection to doing so more generally is that they consider the charge for a business license to be too high. They cultivate most of the vegetables with which Europeans are familiar, and some novelties which they have introduced from China. They prefer, however, such vegetables as the Lettuce, which come rapidly to maturity, so that they may have a number of crops off the same ground every year, and get rapid returns for their outlay and labour. For example, they would rather grow and sell green Onions, or, as they are termed sometimes, "young Onions," in preference to the same esculent brought to maturity and dried. They will not plant fruit trees, because they would have to wait too long for the fruit, and besides they all entertain the hope of being able to return to China in a few years, and will not invest capital in this colony on "permanent improvements." But this is not their only objection. A gentleman recently offered to let a large and excellently-stocked orchard to a company of Chinese gardeners, on very advantageous terms, as his chief object was to get them to take proper charge of the garden; but they obstinately refused to have it at any price, for they did not think one crop of fruit a-year would pay them for the labour that would have to be bestowed on the trees, although they could also grow vegetables. In the same way they are averse to growing Potatoes, as they occupy the ground too long before the crop is obtained. They are very successful in growing Cucumbers, Pumpkins, Vegetable Marrows and such like, and their Melons are specially remarkable for their superior excellence. It may be mentioned that the Chinese preserve the seeds of the Melon, salting and drying them, and they are afterwards cracked between the teeth and eaten by Chinamen as Europeans eat nuts. When a Chinaman has had a few whiffs of opium, or is otherwise enjoying a leisure hour, it becomes as natural to him to crack and eat Melon seeds as it is for an English gentleman, after dinner, to associate Walnuts with wine.

Among the best known of the novelties which have been



introduced by the Chinese gardeners is what is called the China Cabbage, a vegetable which is not much esteemed by the English palate, because, when boiled, it becomes tasteless and flavourless, and reduced to a pulpy mass, as if it were decayed. This, however, is not the case if it be properly cooked in the same way as it is by a Chinese Soyer. The China Cabbage ought to be boiled, or rather stewed, in a small quantity of water, not sufficient to cover the vegetable. The Chinese usually cook it in a frying-pan after cutting it into small pieces. When it has been so boiled for a short time—no cover being put over the vessel—the water is partially strained off, and some oil or pork fat added; probably to most tastes, except those of Chinamen, butter would be preferable. So prepared, the China Cabbage would please the most fastidious gourmet. The China Pea is another excellent vegetable, being remarkable for the great length of the pods and its prolific crops. The Chinese use the Pea before the pods are thoroughly filled, as they cook the Peas in the pod and eat both, in the same way as French Beans are used.

Probably the chief secret of the success of the Chinese gardener, in addition to the liberal manuring, is that the vegetables are kept constantly supplied with water. They are watered three times a day—in the morning, about midday, and in the evening. A large number of barrels, sunk in the ground at the end of the plots, are distributed throughout the garden. These are filled from the wells or creek during the intervals between the hours for watering, by the partner whose duty it is to perform this work. From there the watering-pails are filled at the proper time, and the liquid poured copiously over the vegetables, for they consider it most essential to water the plant as well as the soil, although English gardeners will frequently be seen pouring in only a little water at the roots of a flower or other plant. The plots are likewise frequently and regularly saturated with the liquid manure. English gardeners think it injurious to water any kind of plants during the day while the sun is shining; and so, indeed, it is, if the watering be not continued regularly. A Chinaman's vegetables are kept constantly moist, and he would water them at the appointed hour, although it were evident that a perfect torrent of rain would descend in a few minutes. The Chinese are quite as diligent in weeding as in watering, and the former is carried on as constantly as the latter, for they will not allow their manure to be exhausted by a profitless crop. No trifle is considered beneath notice, and a gentler and more careful cultivator than the Chinese gardener it would be difficult to imagine. He seems to be passionately fond of his plants, and nurses them most affectionately. For a picture of patience, nothing could surpass a Chinese gardener washing blight from the blades of his Cabbage. With a keg of soapy water, and a piece of stick with a rag tied to the end of it, he moves slowly along the side of the plot, tenderly lays hold of one blade after another, and carefully rubs off the blight with the cloth after he has dipped it in the water. To wash many hundreds of Cabbages in this fashion seems an extraordinary undertaking, but the Chinaman thinks it the most natural thing in the world, and, persistently persevering, it is astonishing what rapid progress he makes. In no respect are the wisdom, foresight, and accurate calculation of the Chinese gardener more wonderfully displayed than in his arrangement of his crops, so that he has always some description ready for sale, and yet never has a glut; or is compelled to sell immature vegetables, or allow them to become overgrown. He sows and reaps something every day all the year round; with him it is always seed time and always harvest. In the garden are to be seen vegetables in all stages of development; and as soon as one plant is taken from the ground new seed is put in its place. The soil is never allowed to remain a day idle, but it is too liberally treated ever to get exhausted. It ought not to be omitted to mention, before closing, as many may be ignorant of the fact, that Chinese gardeners always steep the seeds they are about to sow in liquid manure, until they are considerably swollen and have begun to germinate. The effect of this is that they spring up very rapidly, and escape the ravages of insects to which seeds and tender blades are so liable. Our best horticulturists and agriculturists could learn many a valuable lesson from the Chinese gardener.—(*Australian News*.)

### STRAWBERRY CULTURE.

THERE seems to be a prevailing opinion that the Strawberry crop this year is a failure. I never had a better, and I think if

my system were carried out there would be no complaints. My ground is well dug and heavily manured, the Strawberry plants dug up and put in with a trowel in July, 2 feet every way from plant to plant, the surface of the ground covered with manure in the end of March, no spade or fork ever allowed near the beds after they are made till they are destroyed, the weeds hand-picked, the roots kept single instead of being allowed to run one into another, and the barbarous mowing the leaves off strictly prohibited. I have had as many as seventeen clusters of fruit on a root the first June after planting. After the second year they are dug up and a fresh piece of ground planted. —J. W. CHALONER, *Newton Kyme, Tadcaster*.

### CUTTING ROSES AND TAKING THEM TO A DISTANT EXHIBITION.

WOULD one of your contributors, skilled in preparing Roses for exhibition, give a few hints as to the best means of conveying them to the place of exhibition? Should they be arranged beforehand in the boxes as they are to be exhibited? I mean in case of having to convey them one hundred miles or more. Or, if carried to the place of exhibition and arranged there, would a basket or close-fitting box be the best in which to convey them? Now that this flower is becoming so generally exhibited at our horticultural shows, a few hints on this subject will, I have no doubt, be acceptable to many of your readers, and especially so to—A COUNTRY CURATE.

[In answer to the above two questions I reply, that I live more than one hundred miles from London, and that, by careful attention to blooms, I have carried them sufficiently fresh to win two first prizes against the amateurs, and a second prize against the nurserymen. The distance of one hundred miles entails night travelling. I, therefore, cut from 5 to 7 p.m., and leave the box sufficiently open to take in the moist evening air from 7 to 9. At that hour I start for Wimborne Station, seven miles distant, and travel about three miles and a half an hour, pulling up at every dip, and driving in the centre of the road to keep the box level. At Wimborne I water the Roses, having a quarter of an hour to do so. I arrive at Waterloo Station at 4.30 a.m. They are then watered again and hoisted as level as possible on to the cab. Having arrived at Kensington I water them again and shut the box as close as I can to keep out heat and prevent evaporation. In this case I place over the box a wet cloth to prevent the action of heat on the box. I have always arranged them beforehand, but I also take a number of supernumeraries. I may say, that as decay is sometimes rapid, Roses just relaxing their petals will oftentimes be better next morning than Roses that left home fully expanded. It is best to take both, but futile to take blooms that have been wetted. The stems cannot be kept too wet, nor the blooms too dry, as heat and wet are the elements of decay. It is a great help to Roses that are to travel to keep the plants watered previously. Before putting the blooms into the box dip the stalk into water and sponge the leaves, but do not wet the blooms. On arrival at the exhibition cut off a small slice at the bottom of the stem, as they will suck the better for it. This is my reply to the first question.

In answer to the second question, I have an opinion that the following would be the best way of all for cut flowers to travel:—The mischief, of course, is evaporation. When a bloom is open it is at its zenith. It must, therefore, more or less decline. Our painted boxes draw the heat. The top, therefore, of the show-box should not be painted. Mine is painted; but to counteract heat I travel with a wet sack over the box. I have never travelled with cut flowers in a box, or basket, but I imagine that a box lined with lead, and having ice at the bottom, with a newspaper between the ice and the flowers, would be the best way of all. The flowers should be laid thinly in layers, with wetted grass, or moss, over their stems, and a bit of paper between the blooms. I have often sent Roses to London in linendraper's boxes without ice, but treated as above, with success. The great point is to prevent evaporation or the action of heat. Camphor is a very cooling thing, and, therefore, if travelled with water-cups a little spirit of camphor would help to keep the water cool.

Finally, having put your Roses on the stand and having removed the cover, keep your eye on the box as long as you can, and, above all, keep your temper. As Mr. W. Paul justly observes in his admirable book on Roses, page 177:—"Let us ask ourselves again, if there is any disgrace in being beaten?" Certainly none. Every place here is honourable. If our plants



(or blooms), be good, never mind those of our cotemporary being better.

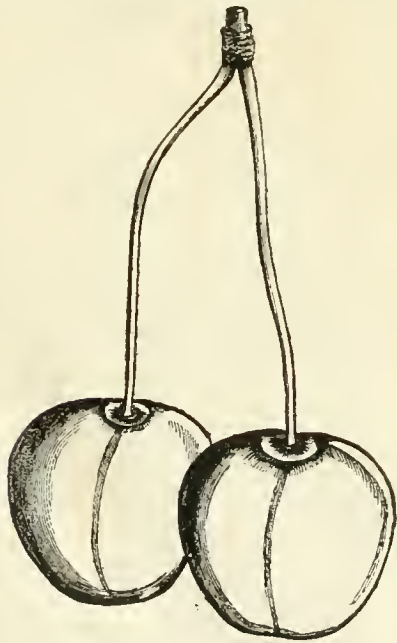
I recommend to "COUNTRY CURATE" an admirable article printed in the "Gardeners' Annual," which contains ten excellent rules to guide the Rose exhibitor. The direction given in one of those rules—namely, to cut the Roses in the morning with the dew on them is a good direction for Roses grown on the hills where the dew is moderate; but in valleys the dew in summer, which is in the same ratio as the solar heat, is so copious that it is very little short of rain. It penetrates into interstices between the petals, and when the Roses are exposed to the heat of exhibition the colours fly. Whether, therefore, I exhibit far or near, I cut overnight as late as I can, and leave the lid of the box trigged open, but sufficiently close to prevent the dew from falling on the blooms. They will thus absorb quite sufficient moisture. I have always observed at shows that my Roses stand the heat and keep their colours better than those of many others.—W. F. RADCLIFFE, *Tarrant Rushton.*]

### CUTTING ASPARAGUS.

I WILL reply to your correspondent, "J. K.," page 488, from a totally different point of view. When a garden is much infested by the Asparagus beetle, it is obvious that by cutting off all the sprouts, you deprive them of a place to lay their eggs, and thus diminish them. On this principle I cut my beds clean, but find great difficulty in forming a new bed, from the impossibility of cutting, and the trouble of hunting after the grubs, which become beetles.—G. S.

### FROGMORE EARLY BIGARREAU CHERRY.

THIS production of the Royal Gardens is one of Mr. Ingram's most successful efforts in raising new fruits, and will prove a great addition to our varieties of early Cherries. The original tree is growing against a north-east wall, and the fruit was ripe this season on the 17th of June. Unlike the class to which it properly belongs, it has a tender melting flesh, and furnishes another instance of Nature rebelling against the devices and systems of men. In every respect this is a Bigarreau in habit, leaf, and appearance of the fruit, and must be classified along with these varieties; but as if to set at nought all human arrangements, it persists in having a delicious melting flesh instead of one that is hard and crackling.



Frogmore Early Bigarreau Cherry.

The fruit is large, obtuse heart-shaped, with a very shallow suture. Skin with a brilliant red cheek, dotted with minute yellow points, and of a remarkably pale almost pure white

where shaded—so susceptible is it of shade that the point of a leaf or the shadow of a twig would be photographed on this brilliant red. Stalk 2 inches long with a very small receptacle, and set in a shallow and narrow cavity. Flesh very delicate and translucent, perfectly tender, melting, and very juicy, with a rich sweet flavour. Stone small.

The tree is a great bearer; clusters of a dozen and a half to two dozen large handsome Cherries being produced on a small spray.

### AUCUBA JAPONICA.

Now that in our gardens this Aucuba perfects its brilliant berries, or drupes, to speak botanically correctly, it has acquired a very great additional interest, and, indeed, when loaded with its coral fruit it has such a novel aspect, that we heard a lady inquire "where this new species came from?" and, as this query led to others, and as the information elicited is not devoid of interest, we will arrange and detail it.

There is no doubt that Kämpfer was the first European to see it, describe it, and portray it. In his "Amenitates exoticæ," published in 1712, he describes the "Aükuba" very accurately as having "red oblong fruit, rather larger than that of the Laurel; flesh slight, white, slightly sweet; nut inclosed, rather hard and harshly flavoured."

More than half a century later, Thunberg also noticed it when in Japan. He says, in his "Travels," that in 1776, when travelling near the Japanese town called Kokura, "I found near the bath at an inn a tree which is called *Aukuba*, and another called *Nandina*, both of which were supposed to bring good fortune to the house."

That benign influence did not extend to its European discoverers and the introducer to our gardens. Kämpfer returned from Japan with shattered health, and died four years after he had published his description of the Aucuba; Thunberg lingered for years suffering from accidental poisoning; and John Grafer, who first cultivated it in Europe, was murdered.

This last-named botanist is so little known that a few relative particulars deserve recording. He was a native of Germany, and came to England about the year 1760, to be a pupil of Philip Miller, by whose recommendation he was advanced to be gardener to Mr. James Vere, of Kensington Gore, one of the originators of the Royal Horticultural Society. After a few years he became a partner with Messrs. Thompson and Gordon in the Mile End Nursery, but he left the concern when Mr. Gordon died, and accepted a high appointment in Italy. On the title page of the only book he published he is designated "Botanic Gardener to the King of Naples," and to this he was appointed at the recommendation of Sir J. Banks. In the preface to the same work, published in 1789, he is mentioned as favourably known to our Admiralty for his "invention of prepared vegetables." This, and perhaps the influence of Lady Hamilton, who had a taste for gardening, and whose husband was then our ambassador at Naples, obtained for Mr. Grafer the superintendency of Lord Nelson's Sicilian Estate at Bronte.

Then came the Neapolitan revolution; the Royal family were driven from the throne, and Murat became King of Naples. Unluckily for himself Grafer still retained his appointment, for he was assassinated near his residence at Caserta in 1816.

Mr. Aiton in his "Hortus Kewensis," states that the Aucuba was introduced by Mr. Grafer in 1783. For some years, with praiseworthy care, our gardeners preserved it in the stove, whence, says Mr. Curtis, it was removed to the greenhouse or conservatory, and is now (1869) found to be as hardy as the Laurel or Laurustinus. The drawing of it in the "Botanical Magazine" for that year is excellent. Unfortunately only a female plant was introduced, and no one had the good thought to strive for the acquisition of a male plant, until Mr. Fortune visited Japan in 1861. He sent it with other valuable acquisitions to Mr. Standish, and it was thus noticed by our reporter soon after its arrival in 1862:—

"There is a plant—familiar even to those least versed in plant-learning, which is to be seen in the smoky squares in London, or breathing the clear air of the country; dingy it may be in the first case, and showing a fresh morning face in the other; which is to be found in every garden, and which succeeds well in all, alike resisting cold and heat, wet and dryness. This is the *Aucuba japonica*, or rather a variegated variety of that plant, for that which has been so long known under this name is merely one of many such varieties only now brought to light.



"The true *Aucuba japonica* is not variegated, but has beautiful shining green leaves, which, when young, are of the brightest colour; and when the female plants are impregnated, it will possess an additional charm in being covered with its



*Aucuba japonica.*

large red berries. It may safely be predicted of this new introduction, that in a few years it will be planted in every shrubbery, where it will be quite as valuable as the common Laurel, and, like it, will form admirable hedges. For planting



near London and other large towns it will prove invaluable, for the leaves will not look dirty so soon as those of the blotched-leaved sort.

"Such a shrub as this is alone an ample recompense for Mr. Fortune's journey, being, as it undoubtedly is, one of the greatest acquisitions among hardy shrubs that has been made in our time.

"The male Auenba, which is also in Mr. Standish's possession, is, as far as its general appearance is concerned, but little if at all different from the female. Its great value lies in its producing flowers, by means of which the female plants may be fertilised and enabled to produce their beautiful berries. It is very scarce even in Japan, where it is only propagated for this purpose." We recommend purchasers of berried plants to sow the berries, for the chance of having, among the plants so raised, one that has male flowers. Those plants now bearing berries will not, of course, bear them next year, unless male flowers are close by during the blooming season.

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

**FOURCROYA LONGEVA** (Long-enduring Fourcroya). *Nat. ord., Amaryllidaceæ. Linn., Hexandria Monogynia.*—"The stately plant here represented is *Fourcroya longeva*, one of the most marvellous productions of the vegetable world. It belongs to the family of *Amaryllidaceæ*, and has the habit of a gigantic *Yucca*, its stem being frequently 50 feet high, and its flower-spike 40 more! It was originally discovered on Mount Tanga, in Oaxaca, at an elevation of 10,000 feet above the level of the sea. Mr. Skinner has also met with it on the high mountain-ridges in the interior of Guatemala. Plants of the species exist in our nurseries, but, contrary to expectation, it seems to suffer severely from the cold and changes of our climate. With us and in the Regent's Park garden, the temperature of a common greenhouse is sufficient for it; but the largest of our plants in cultivation are, of course, but pigmies in comparison with its height on its native mountains."—(*Bot. Mag., t. 5519.*)

**DENDROBIUM SENILE** (White-haired Dendrobium). *Nat. ord., Orchidaceæ. Linn., Gynandria Monandria.*—Native of Moulmein. Flowers yellow and long-lasting.—(*Ibid., t. 5520.*)

**MARIANTHUS DRUMMONDIANUS** (Drummond's Maranthus). *Nat. ord., Pittosporaceæ. Linn., Pentandria Monogynia.*—Native of Western Australia. Flowered in May at Messrs. Veitch's. Flowers blue.—(*Ibid., t. 5521.*)

**PRIMIA ALTISSIMA** (Lofty Drimia). *Nat. ord., Asphodelaceæ. Linn., Hexandria Monogynia.*—The finest of all the Drimias. Native of Natal. Flowers green, anthers yellow on purple filaments.—(*Ibid., t. 5522.*)

**PHALENOPSIS LUDDEMANNIANA** (Lüddemann's Phalenopsis). *Nat. ord., Orchidaceæ. Linn., Gynandria Monandria.*—Native of the Philippine Islands. Introduced by Messrs. Hugh Low and Co., Clapton. Flowers white barred transversely with lilac at the base, and cinnamon on the upper parts.—(*Ibid., t. 5523.*)

**PRIMULA CORTUSOIDES** var. *AMEXA*.—Introduced by Messrs. Veitch from Japan. Flowers crimson with white eye.—(*Floral Mag., pl. 249.*)

**ANDROMEDA TETRAGONA**.—Native of North America. Flowers white. Suitable for rockwork.—(*Ibid., pl. 250.*)

**ANEMONE FULGENS**.—Imported by Messrs. Backhouse and Sons from the mountains of Greece. The flowers quite single, and intensely crimson.—(*Ibid., t. 251.*)

**BERBERIS STENOPHYLLA**.—Hybrid between *B. Dorwintii* and *B. empetrifolia*. Raised by Messrs. Fisher, Holmes, & Co., Handsworth Nursery, near Sheffield.—(*Ibid., pl. 252.*)

**PELARGONIUM**.—*John Hoyle*: "We mentioned this flower as being, at the time we wrote, the flower of the season, so far as show Pelargoniums were concerned; and such it proved to be. None of the many fine sorts which made their appearance during the blooming season came up to it either in quality or in beauty. We may now add that, for distinctness and richness of colouring, and for all the properties desirable in a flower, none of the varieties of the present season will be found to surpass it."—(*Florist and Pomologist, iv., 137.*)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE principal business here for the next three weeks must be the introduction of the various winter and spring Greens,

and the thorough cleaning of the kitchen garden. Indeed, those who do not or cannot make earnest war against all weeds at this period must not look for abundant produce through the autumn and winter. *Artichokes*, when the heads are used the stems should be cut off close to the roots, clean the stools of decayed leaves, and loosen the surface of the soil about them with the hoe. *Brussels Sprouts*, let every nook be now filled with these and Green Kale, Savoys, Cabbages, and, of course, with a due supply of *Broccolis*. The *Wilcove*, the *Somers*, particularly *Late White*, the old *Sulphur*, and *Snow's Winter* should be got out immediately. The middle season, as the Grange's *Impregnated*, the *Protecting*, the *Walcheren*, and the *Cauliflower* must speedily follow, and these again followed by the *Capes* and some more *Cauliflowers* on a warm border for heading until Christmas. *Celery*, the beds should be planted speedily, as fast as land comes to hand. If the plants get gross when they are "pricked-out" they will run to seed if the weather is sunny. *Cucumbers*, keep the linings of the frames made up, so as to transmit a gentle warmth through the bed; for however warm the weather may be, this is necessary to procure fine handsome fruit. *Garlic* and *Shallots*, as soon as the tops begin to fade pull up the roots; after allowing them to remain on the ground a day or two to dry, tie them up in bunches, and hang them in a dry place. *Lettuce*, another sowing may be made in drills where the plants are to remain; a little of the *Paris* and *Bath Cos* may be sown at the same time. *Mushrooms*, save and prepare horse-droppings for beds to produce through the autumn and winter. Take care that newly-made spawn-bricks are thoroughly dry before being stored away. *Spinach*, sow a few rows to keep up a succession, thin the preceding crop, and keep it watered in dry weather. *Tur-nips*, thin-out the last sowing to a foot or 15 inches apart, and as the weather is now favourable the main autumn crop may be sown. Where the *Broccolis* are planted between Peas a narrow space should be dug for them if the ground is very hard, the rest of it can be dug and the intermediate rows of plants got in when the Peas are off. Do not forget a good breadth of *Leeks* immediately, and I may add, do not forget to put plenty of manure to them.

### FRUIT GARDEN.

Proceed with nailing the young wood of wall trees, and see that they are perfectly clear of insects, also stop any gross shoot, and endeavour to secure a fair supply of bearing wood all over the tree. Gross shoots that were stopped early in the season should be divested of all the laterals except one, or if it can be spared, remove it altogether. Keep the breastwood on Pear and other wall and espalier trees closely stopped in, and attend to thinning the fruit where the crop is too heavy for the strength of the tree. Look to preparing Strawberry runners for forcing next spring. Prepare ground for fresh plantations by heavily manuring and trenching it, or if land cannot be obtained at once, select the strongest runners and plant them on a shady border in rich soil, to be transplanted with balls next month.

### FLOWER GARDEN.

Go over the beds frequently, and keep the young shoots of *Verbena*s, &c., nicely regulated and pegged down until the ground has got fairly covered, after which greater freedom of growth may be permitted. On light dry soils two or three applications of weak manure water, given at intervals of a few days, and when the ground is moist, will greatly assist in getting the beds covered without loss of time. See that *Dahlia*s, *Hollyhock*s, &c., are securely staked and kept properly tied. Remove decayed flowers and seeds from *Roses*, and give autumn-flowering varieties plenty of manure water in order to keep them in vigorous health and to secure plenty of blooming wood. Such as are budded on the *Dog Rose* must be kept clear of suckers. Budding may be proceeded with when the weather is cloudy. Give plants infested with green fly a liberal washing with the engine, or syringe them with tobacco water. Mildew sometimes becomes troublesome after this season; it may, however, be kept in check by applying sulphur to the parts affected the moment it makes its appearance, first wetting them with water, in order that the sulphur may stick. Where required proceed with propagating herbaceous plants, selecting for the purpose the small shoots not furnished with bloom. A north border is a suitable place to strike them, and a hand-glass will facilitate their rooting quickly. Pansies for autumn blooming may be treated in the same way. Climbers generally should be looked to. *Russian Violets* may be separated, and fresh plantations made. *Tulips* may now be taken up, allow the skin and roots, after carefully removing the soil, to remain,



these can be better taken off when the bulb is dry. Push Dahlias on by watering freely when the weather is dry, also assist them by mulching the ground with decayed stable-manure; take care that the plants do not chafe where attached to the blooming-sticks. Trap earwigs and other destructive insects. Mow and roll grass. Trim edgings. Attend to the walks, the weather at present encouraging the growth of weeds.

#### GREENHOUSE AND CONSERVATORY.

During the time when the creepers are in an active state make it a rule to go over them frequently, that they may not grow confused. The same may be said of creepers in pots which require attention, for the same reason, every few days. Any shoots which have done flowering to be cut back, and a crowded growth avoided. A number of hardwooded plants which were cut back some weeks since will now have recovered themselves and be commencing a fresh growth. This is the proper time to shift into larger pots any plants requiring it. Carefully loosen the outside roots. After potting, keep the plants close for a few days, and syringe them daily, but avoid giving any more water to the roots than is sufficient to preserve the old ball moist. Stock for autumn and winter flowering will now require some care to get it sufficiently forward to be useful at the proper time. Chinese Primulas, especially the double varieties, if at all backward, may now be placed in a close frame and shaded from the sun, when they will be found to make satisfactory progress. Cinerarias for early flowering should also be potted and started at once, choosing the strongest suckers for the purpose, and placing them in a close shaded frame until they have become rooted.

#### STOVE.

The stock here will now be growing rapidly, and must be allowed sufficient space to permit the perfect development of the foliage and the formation of compact handsome specimens. The atmosphere of this house can hardly be kept too moist, and the plants should be sprinkled overhead morning and evening, and every available surface kept constantly moist. Plants that are known to suffer from the direct action of the sun's rays should be placed in a shady part of the house, or kept together at one end where they can be shaded without interfering with plants that require plenty of light. If previous instructions have been properly attended to there will be little to do to the Orchids, besides attending to the ordinary routine of affording them a thoroughly moist atmosphere, repotting any specimen that may require it, and sponging the foliage as may be necessary to keep it perfectly clean.

#### COLD PITS.

The stock here will now be growing freely, and should be examined frequently in order to see that all is right, for plants growing rapidly speedily suffer from neglect in watering.—W. KEANE.

### DOINGS OF THE LAST WEEK.

The rain which we anticipated last week came, greatly enlivening the appearance of vegetation wherever it fell, and falling more freely, we believe, in the southern and eastern counties than with us. As a general rule, however, what are great general advantages to the many are often obtained at the expense of the inconvenience and discomfort of the few. The weather prophet was no fool who kept a well-lined pocket, and a successful popularity, by assuring his dupes he could send them rain at any time, whenever they were all agreed as to the propriety of having it on a certain day. This agreement was never realised—one wished dry weather for hay, another a fine day for pleasure, another fair weather until he returned from a journey, and so on; and, from the want of unanimity in his supporters, the prophet maintained his ascendancy and reputation.

Few could deny the advantages of the downpour on the 30th ultimo, but thousands wished that it had been on some other day than that set apart for a great out-of-door horticultural fête, which had been eagerly looked forward to, especially by the youth of both sexes. Of this we shall have something to say, if we can find time and space. Meanwhile, it was highly gratifying to find even so many braving the discomforts of the deluging rains, and the long wet grass, to see the flowers, and to listen to the strains of the best music. They must have felt that "music has charms," even when given in a tent, along with the heavy, discordant, pattering of the rain.

On Thursday, the 6th, we had a delightful rain, attended

with thunder, which is likely to lessen the great amount of heat, which has lately been making labour very trying to some of us, and attempting to take things a little easy more trying still. We can feel sympathy for a man who is working sharply in one of these broiling days, with the thermometer close on 90° in the shade; but we can feel the sincerest pity for the man who crawls about at work, or otherwise, on such a day. The active workman will get ease from perspiration, and the breezes which his own active motions make; whilst the lethargic man will feel as if he were going to be choked up in his own laziness and immobility.

#### KITCHEN GARDEN.

Proceeded with getting in winter crops of Savoys, Brussels Sprouts, Scotch Kale, Broccoli, &c., after the rains. Those pricked-out were lifted with balls, and planted in trenches with the spade. Those from seed-beds were planted with the dibber. See directions for dibbling last season. Transplanted Beetroot which has come badly, have a lot coming on under protection, hardly large enough to transplant yet; will so sow and transplant in future, as even under nets the birds nip them up as soon as the red seed-leaves appear. Sowed a few more Beans, Kidney Beans, in the open air, and a few Dwarf Fan Beans to come in in October, if the weather is fine. We often succeed better with good rows of early Beans, cutting them over when pretty well gathered about 3 inches above the ground, and the shoots that are thrown out from below often fruit better than those sown in June or the beginning of July. Sowed almost the last Peas, as Dickson's Favourite and Sangster's No. 1. Will most likely sow some early dwarf kinds about the middle of the month, in a warm sheltered border. Will proceed with winter stuff, as soon as we clear Potatoes, and early Peas. Watered the Peas in full bearing with sewage water, and mulched with short grass and litter. Mulching we find a great advantage, even if we could water more than we do. Sowed Carrots and Onions for drawing young, and planted out Leeks, giving them some good stuff to grow in, as Leeks when well cooked are a dish for a prince. They are also said by some of our learned medical men to be as cooling for the system as Onions are generally heating.

#### FRUIT DEPARTMENT.

Much the same as in previous weeks. Gathered Raspberries, Strawberries, and Currants for preserving. Have as yet been unable to plant out the spring-forced Strawberry plants, or to do much in preparing for next year's forcing. After this rain, will proceed with both operations. A little spider having appeared in the Peach-house, smeared the pipes with sulphur and put a brisk fire on for two or three hours, and then gave air, as a continuance would have been apt to throw off the ripening fruit before they were perfectly matured, and much sulphur fumes in a close house with heat would tell upon the flavour. There is so little spider, and so little chance of its increasing much before the fruit is all gathered, that unless care is used, it would be better to dispense with fire heat and sulphur on the pipes when the fruit is so far advanced. In answer to an inquiry we would here state that we know of no better plan for sending Peaches long distances safely, than to gather before they are over-ripe, and pack in boxes divided into partitions of 3½ inches square, wrapping each Peach in stout silk paper, placing bran below it, and bran all round it and above it—shaking a little to keep all firm.

*Vinery Borders.*—We have only been able to remove our thin covering of tree leaves; this season we wish it had been done a fortnight ago to have gained the advantage of the strong sun heat. In general, for early Grapes, and the roots outside, and the border covered so as to keep heat in and frost out, even if little heat is thrown in, we think it safer and better every way to remove the covering in the end of June, instead of, as is often advised, in the beginning and middle of May. If the days are warm in the end of May the nights are generally cold enough, and the soil parts with its heat so rapidly by radiation as to cool the roots and check them if near the surface. If cold weather should succeed this thunder, it would be good policy to throw some litter or other protecting material over the border, as soon as the sun left it.

What we and others have said about Vine-borders is all right enough, and it is well to use such precautions for success; but, since we mentioned the fine Vines in Mr. Lane's orchard-house, we have been told of some dozen of instances of great success where no border-making had been resorted to, but the Vines were planted at once in the natural soil. A gentleman, or an amateur, may well do such a thing, and risk the consequences;



but a gardener, whose living and character depend on success, can scarcely risk such a primitive way of doing work. Not seldom, however, have we seen a great hole made, by taking away excellent soil, and the place filled up with a heterogeneous mixture of road scrapings, pond mud, and all sorts of rubbish, in which the Vines could not be made to flourish. If dryness is secured at the root by drainage, it would often be a rational plan to let well alone. Young Vines are much more often ruined by excessive early cropping than by bad soil or unsuitable borders. Of course the one influence will act and react on the other. No Vines will flourish in stagnant moisture; and we were going to say that they will not flourish with their roots deep; but we have known cases of fine Grapes—not early, but ripening well in July—where the bulk of the roots were some 20 inches below the surface, with fine open soil about 15 inches below that. For extreme fertility it is better to have them within a few inches of the surface.

#### ORNAMENTAL DEPARTMENT.

Here our work has chiefly been a repetition of that of last week. We are glad we covered a good portion of the beds with a little mulching of rotten dung before the rains came. The most of the beds will now look after themselves, with but little care except tying, regulating, and pegging. We have several times described our wholesale way of doing the latter with little sticks, or prunings, cracked in the middle, and then both ends inserted in the ground, just as we might do with long hairpins of the ladies. The lawns are now getting nice and green, so as to give a good contrast to the flowers. We will, however, use the mowing machine but lightly until the vigour is regularly restored, as a brown lawn is a great disfigurement, and only less trying to the gardener than a withered grass field is to the farmer. From the heat and drought many grass fields never helped to blunt the scythe this season. Proceeded with potting all kinds of plants, and the cold pits now emptied of bedding plants are capital places for new-potted things, as, merely by the difference in air-giving and shading, we can make every two or three lights into a hot-plant stove, a cool-plant stove, a greenhouse, a warm pit, or a cold pit, at will.

*Placing Plants Out of Doors in Summer.*—There are few plants that are the better of this process. We adopt it with Azaleas, Camellias, New Holland plants, Pelargoniums when done blooming, &c., but just because we can find no room for them under glass. With light houses, and abundance of air, or, rather, part of the glass removed, we have no doubt all would be as well, or better, if kept under glass. When set out temporarily there is always danger from storms, from soaking rains, and the chance of leaving them a night too long, or taking them out too soon; but the practice is general, and we must make the most of it. The position should be sheltered, but not too much shaded, and, provided the heads are inured gradually to the sun, they will seldom suffer from all that this country can give them. It is from the roots that injury proceeds, especially when the roots are matted at the sides of the pot, and the pot is exposed to the force of a powerful sun. Plunging the pots, or surrounding them with some substance, to break the force of the sun's rays, is of great benefit to the plants, besides securing economy in attendance and watering.

*Plants Drawn from Shade.*—We have had numerous complaints that Geraniums, Fuchsias, &c., well grown, were, on account of their being drawn—that is, lengthened out by shade—thrown back in the prize lists at some country exhibitions. The gardeners say what is perfectly true, that it was impossible to have them otherwise in the only place they had to grow them in—under the shade of Vines, &c. Some have asked if that circumstance should not be taken into consideration by the judges in awarding the prizes. We do not see how that could be well done, unless all who grew in similar circumstances were to compete with each other. As a rule, judges never trouble themselves as to how the articles are produced; their work, for the time, is to single out what they consider the best—a not-very-easy task frequently—and, in the matter of plants, other things being equal, they will give the preference to stiff stubby plants over those that are weak and drawn. We quite sympathise with one gardener, who says his master is dissatisfied that his plants, drawn from shade, do not take the first place, because the disadvantageous position ought to be taken into account. It would be better every way not to grow such plants for exhibition in such a place at all. The gardener should explain the matter courteously to his employer, and either give over showing against more favoured competitors, or obtain from his employer equal facilities for

growing them well. Even then every one cannot take the first place; and there are many instances of fine culture that do not appear in the prize list. As our opinion is asked, we do not hesitate to say that, though the samples of plant culture turned out of fruit-houses are often wonderfully good, such plants as Pelargoniums, Fuchsias, &c., where much depends on the compactness of the plants and the richness of the colour, can never be made to equal those grown in light open houses, where the plants are the chief or only thing to be attended to. One amateur, who year after year failed with Geraniums from this cause, has taken to grow Ferns and Mosses with great success, and here, in his own neighbourhood, stands pretty well alone. Is not this much better than vainly striving to beat or equal a neighbour with so many advantages over himself? The gardener who competes will act wisely if he show what his circumstances will enable him to give every justice to. In the show alluded to we saw some wonderful Pelargoniums, to which we will refer at a future time, and we were informed that these plants did not even stand on a stage or a shelf, but that every plant had a pedestal for itself, with plenty of room all round it, and the light striking every part without obstruction. We also noticed some Pelargoniums and Petunias unrivalled for the brilliancy of their colouring; and we ascertained that they came from a gentleman who has taken out a patent or patents for glass-house building. We had the privilege of examining the houses and manufactory, and will give a short description ere long. Meantime, if the matter of expense at first can be properly got over, there can be no question of the great improvements. The houses are entirely of iron and glass, the iron either enamelled or galvanised, so as to dispense with painting—at least it will seldom need to be resorted to. Large squares of glass are used—no rebates, no laps, no putty, no bother; but the house can soon be put up, and soon taken down, and the squares packed again in crates; and yet so securely is the glass fixed that no wind or change of weather will cause it to move or rattle, and so loosely that there can be no breakage from expansion, as we some time ago mentioned took place here, when glass was put edge to edge without a lap. Except the small bars that are used to keep the glass down, the whole surface is a plane of glass, and, though the squares are joined to each other in the same plane, without lap or anything between them, there is no drip. Of course ventilation is duly secured.—R. F.

#### COVENT GARDEN MARKET.—JULY 8.

THE late refreshing rains have improved both the quantity and quality of the supplies to our market, which comprise all the articles usually to be had at this season. Among the foreign imports are Green Gage and other Plums, Apricots from France, and Fine Apples from the West Indies.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples..... $\frac{1}{2}$ sieve	1	0	2	0	Melons..... each	2	0	6	0
Apricots..... doz.	1	4	3	0	Mulberries..... punnet	0	0	0	0
Cherries..... lb.	0	0	0	6	Nectarines..... doz.	10	0	15	0
Chestnuts..... bush.	0	0	0	0	Oranges..... 100	10	0	20	0
Currants, Red $\frac{1}{2}$ sieve	3	0	4	0	Peaches..... doz.	15	0	24	0
Black..... doz.	3	0	4	0	Pears (kitchen)..... doz.	0	0	0	0
Figs..... doz.	8	0	12	0	dessert..... doz.	0	0	0	0
Filberts..... 100 lbs.	0	0	0	0	Pine Apples..... lb.	4	0	8	0
Cobs..... doz.	50	0	60	0	Plums..... $\frac{1}{2}$ sieve	0	0	0	0
Gooseberries..... $\frac{1}{2}$ sieve	2	0	3	0	Quinces..... $\frac{1}{2}$ sieve	0	0	0	0
Grapes, Hambro..... lb.	3	0	8	0	Raspberries..... lb.	0	6	0	3
Muscats..... lb.	5	0	10	0	Strawberries..... lb.	0	6	2	0
Lemons..... 100	5	0	10	0	Walnuts..... bush	14	0	20	0

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes..... each	0	4	0	6	Leeks..... bunch	0	3	0	6
Asparagus..... bundle	5	0	8	0	Lettuce..... per score	0	9	1	6
Beans Broad..... $\frac{1}{2}$ sieve	2	0	3	0	Mushrooms..... pottle	1	0	2	6
Kidney..... 100	0	6	1	0	Mustd. & Cress, punnet	0	2	0	0
Beet, Red..... doz.	3	0	4	0	Onions..... bushel	5	0	7	0
Broccoli..... bundle	0	0	0	0	pickling..... quart	0	6	0	8
Brus. Sprouts..... $\frac{1}{2}$ sieve	0	0	0	0	Parsley..... $\frac{1}{2}$ sieve	1	0	1	6
Cabbage..... doz.	0	9	1	6	Parsnips..... doz.	1	0	2	0
Capicums..... 100	0	0	0	0	Peas..... quart	0	2	1	6
Carrots..... bunch	0	6	0	8	Potatoes..... bushel	2	6	4	0
Caniflower..... doz.	3	0	6	0	New, per doz. lbs.	1	6	2	6
Celery..... bundle	2	0	3	0	Radishes doz. bunches	0	6	1	0
Cucumbers..... each	0	6	1	0	Rhubarb..... bundle	0	2	0	4
pickling..... doz.	0	0	0	0	Savorys..... doz.	0	0	0	0
Endive..... score	2	6	3	0	Sea-kale..... basket	0	0	0	0
Fennel..... bunch	0	3	0	0	Spinach..... bushel	1	0	2	0
Garlic and Shallots, lb.	0	8	0	0	Tomatoes..... doz.	3	0	4	0
Herbs..... bunch	0	3	0	0	Turnips..... bunch	0	4	0	6
Horseradish..... bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0



## TRADE CATALOGUE RECEIVED.

William Dillistone, Munro Nursery, Sible Hedingham, Essex.  
—Catalogue of Choice New Plants of 1865.

## TO CORRESPONDENTS.

\*.\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

**CHAMBER SLOPS (South Norwood).**—You had better not apply these to your Cucumber plants. It is of too uncertain a composition to be employed by any exact practical men. You may apply the slops to Cabbages, Rhubarb, Sea-kale, and Asparagus without fear of injuring them.

**ROSE CUTTINGS IN COLD FRAME (B.).**—They are best put in singly in small, two-and-a-half or three-inch, pots, in light sandy loam, plunging them in ashes, shutting up close, and shading from bright sun, never opening the frame for the first six weeks, except to sprinkle them with water every morning during bright weather. In September admit air by tilting the lights at back, and during the winter protect from severe frost, admitting air in mild weather. The cuttings should be from wood of the current year, and are best taken just after the bloom is past. They should have three joints, one being inserted in the soil, and the others left with their leaves entire.

**PANSIES AND PINES PROPAGATING (Agnes).**—Your plan is the right one. Keep close and shaded for a fortnight or so, or until the cuttings begin to grow, showing plainly they have struck root; then admit air and sun by degrees, gradually inuring them to full light and plenty of air. They like plenty of air after they have struck root, and that they usually do in a fortnight to three weeks or a month, during which interval they require no air. Shade from strong light and sun, and sprinkle with water now and then, to keep the air and soil sufficiently moist, but not wet or saturated. We have no knowledge of covering the cuttings with a box for weeks during the day, taking it off at night only. We have long ago struck them by the hundred in a shady border, covering with mats during the day, and only then during sunshine or hot dry weather, from 9 A.M. to 5 P.M. We think the covering with boxes is simply a modification of this—shade from sun, and protection from drought. We do not know of any difference in the Nosegay from other Geraniums, except in the petals, they having three broad and pointed and two narrow and toothed; but Nosegays are now so crossed with others of the Zonale section as to have lost much of their original character. Nosegay Stella is one of the best bedding Geraniums. We have more than twenty kinds bedded out, and it surpasses all the others in colour. It is decidedly worth having; and, though Mr. Beaton, its raiser, thought little of it, it rivals all others that we have tried in the profusion and continuance of its bloom. The old Monthly Rose will grow freely in warm situations, but is usually cut down to the ground by frost in open exposed places. Cut out the old wood, and manure like other Roses. Prune in March. We have beds of them, which are cut to the ground every year. They are now, and all summer, masses of bloom.

**SEEDLING PELARGONIUMS (A. R. M'Guire).**—Your seedling Pelargoniums are of no use; they did not arrive in a condition for judgment; the hot weather had caused the petals to fall. They may be pretty varieties, but not of first-rate quality.

**PLANT BOXES FOR WINDOW SILLS (F. A. Forbes).**—Hayman is the name of the maker, but we do not know his direction. He should advertise them, for they are of very good design.

**FIGS FALLING (A. B., Wallington).**—Does your Fig tree have plenty of light? Want of light is a fruitful source of failure. If your tree has enough of light, and plenty of air, we can attribute the mischance either to dryness at the extreme roots, stagnant water there, or too great luxuriance. If very luxuriant try a little ringing now. We have had the points suffer in dull weather from deficiency of air.

**LILIUM AURATUM CULTURE (G. S.).**—Sound loam and a little peat and leaf mould suit all these Lilies. We would give little water after the leaves decay, but we would keep the roots active by just keeping them moist. If you set the pot on a moist floor, and cover the top with 2 or 3 inches of moss that will do. The moss if the pot was set on the ground would save all your Lilies in the orchard-house.

**CACTUS PROPAGATING (T. Barnes).**—In the short article on the Cactus to which you refer, Mr. Fish forgot to state that it was an answer to a correspondent, and, therefore, no more was alluded to than merely met his case. He would feel a pleasure in helping you to increase your stock, and he would do this better if he knew what kind you have. Most of the singular Echinocacti and Mammillaria, &c., are increased by division, and taking off suckers, and little tubercled offsets. We suspect, however, that yours is one of the Epiphyllum or Cereus breed, as these are what are most generally grown in house windows, and the easiest and best way to increase them is to take off a piece or pieces as entings, and place the cut end among rough gravel and a little leaf mould, damping the mixture a little occasionally. All of these kinds will soon root under this treatment, and then you may pot and grow on. This is a more certain and easy way than putting the cutting in a pot. We are glad you took so many prizes at the flower show out of your spare room, and regret you have no kitchen garden to take your Calceolarias and Cinerarias to give them rest. When cut down they would do in the back part of the room, and might remain there until they made fresh shoots and suckers, and needed potting. They would do better, however, out of doors, and any shady place by the side of the house or the yard, would suit them as well as the kitchen garden. A common little yard can hold very many things in the rest period, as you term it. If even such advantages are denied you, and you object to having such faded plants in your room, we would advise you to depend on a pinch of good seed instead of the old plants. The old plants would give something more certain. If such plants are put in the yard, though they would do well enough in the pots, they would do better if these pots were plunged in ashes. As soon as the suckers were big enough divide and pot into small pots, and then into larger, and get them into the room before frost comes.

**WINTERING BEDDING PLANTS (A Rev. Subscriber).**—In your lean-to house 16 feet long and 9 feet wide, you may keep a great many things. The best arrangement would be to have a walk in the middle, and a platform on each side, and then beneath the platform you can keep many things in winter that do not need much light. To make sure in such a house you would need from 48 to 60 feet of three-inch piping for the hot water.

**AILANTHUS GLANDULOSA (A. R.).**—It is not unusual for this tree to flower in England. It has ripened its fruit here, which is like that of the Ash, but much smaller.

**VARIOUS (E. J.).**—*Dactylis glomerata variegata* is a hardy perennial grass, and may be propagated by division. *Reineckia (Sansevieria) carnea* is a hardy bulb, if grown in well-drained light soil, with a little protection over the bulbs in winter. Of the daisy-knife, mentioned by Mr. Fish, there is a drawing in our No. 113, which you can have by post, if you enclose four postage-stamps with your direction.

**ARRANGING GARDENS, &c. (J. D., Bristol).**—If you write to Mr. Chapman, Hermitage Road, Richmond, Surrey, he will furnish you with the information you need.

**NAMES OF PLANTS (A Kent Subscriber).**—It is quite impossible for us to spare the time which would be required to determine the names of the trees from which your bundle of leaves was taken. Two or three specimens of plants in flower we readily name. Your Grape appears to be *Marchioness of Hastings*, but it is so unripe we cannot say confidently. (*A Subscriber, Wigan*).—We cannot name the scrap sent. The true Breadfruit tree is not a *Musa*, but *Artocarpus incisa*. (*A Youngster*).—1, *Gaultheria shallon*; 2, *Calceolaria* (dried up); 3, *Galega officinalis alba*; *Spiraea salicifolia*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 8th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 2	30.052	30.007	80	38	61	60	S.W.	.00	Very fine; hot and dry; cool at night. [very fine.
Mon... 3	30.073	30.000	81	41	62	60½	S.W.	.00	Very fine; some low white clouds in clear blue sky; hot and dry;
Tues. . 4	29.969	29.942	84	54	63	61	S.	.00	Very fine; hot and dry, with bright sun; cloudy; fine at night.
Wed. . 5	30.016	30.011	81	58	64½	62	S.	.00	Light clouds and fine; exceedingly fine throughout; rain at night.
Thurs. 6	29.940	29.700	84	59	66	63	S.	.48	Very fine, with slight haze; overcast and very hot; heavy rain at
Fri. . . 7	29.781	29.687	73	54	66	63½	S.	.01	Fine, with low white clouds; fine throughout. [night.
Sat. . . 8	29.893	29.761	74	50	65	63	S.W.	.00	Slight shower; dusky white clouds; boisterous; very fine at night.
Mean..	29.960	29.872	79.57	50.57	63.93	61.85	....	0.49	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

## PETERBOROUGH EXHIBITION OF POULTRY AND PIGEONS.

No doubt the Show held on Wednesday and Thursday last at Peterborough was quite equal to any of those of former years held in con-

nection with this agricultural Society. The proposed arrangements of the managing Committee, had they been fulfilled, would certainly have proved as near perfection as possible; but, on the contrary, the neglect of the contractors well nigh upset the exhibition altogether. So far as we could glean the circumstances, by inquiries made on the spot, it appears that the well-known exhibition pens of Messrs. Turner, of Sheffield, were engaged a month prior to the time of holding the show, and it is but justice to state that so far as that firm was concerned







**DORKING.**—Prize, J. Bell, Thornton-le-Moor.  
**POLAND.**—First, Bown and Greenwood. Second, J. Dalton, Sleningsford Grange, Ripon.  
**COCHIN-CHINA.**—First, Bown and Greenwood. Second, J. Walker, Hay-a-Park, Knaresbro'.  
**GOLDEN-SPANGLED.**—First, J. Walker. Second, J. B. Topham, Borough-bridge.  
**SILVER-SPANGLED.**—First, J. Walker. Second, T. Hough.  
**GOLDEN-PENCILED.**—First, G. Cryer, Hartwith, Ripley. Second, Bown and Greenwood.  
**GOLDEN-LACED BANTAM.**—Prize, G. Nicholson, Sharow.  
**GAME BANTAM.**—Prize, Bown and Greenwood.  
**ANY OTHER VARIETY OF BANTAM.**—First, Bown and Greenwood. Second, J. Cartwright, Thirsk.  
**TURKEYS.**—First, J. Greaves, Clothorholme. Second, S. Gothorp, Nunwick.  
**GESE.**—First, J. Hattersley, Abel Grange, Thirsk. Second, S. Gothorp.  
**DUCKS (Aylesbury).**—Prize, H. Walker, South Stainley.  
**DUCKS (Rouen).**—Prize, J. Greaves.  
**DUCKS (Any breed or cross).**—Prize, T. Renton, Ox Close House, Ripon.  
**PIGEONS.**—*Carriers (of any colour).*—Prize, J. Hattersley. *Tumblers (Almond).*—Prize, R. Gray, Borobridge. *Tumblers (Any other variety).*—First, R. Gray. Second, T. Hammond, North Stainley. *Pouters.*—Prize, J. Hattersley. *Jacobins.*—First, J. Hattersley. Second, G. Petty Borobridge. *Fantails.*—First and Second, J. Hattersley. *Cats and Trumpeters.*—Prize, J. Hattersley. *Barbs.*—First and Second, R. Gray. *Turbits.*—First and Second, J. Hattersley. *Dragons.*—First, J. Hattersley. Second, G. Petty. *Balds or Beards.*—First, T. Hammond. Second, J. W. Wood, Ripon. *Any new or distinct variety.*—First, J. Hattersley. Second, J. Malthouse, Ripon.

### ITALIAN MODE OF FATTENING ORTOLANS.

SIR HUGH LYON PLAYFAIR, in his lectures on the application of physiology to the rearing of cattle, gives a very remarkable illustration of the influence of rapid alternations of light and darkness, without reference to the diurnal revolutions of the earth, in inducing sleep and inclination for food, in the Italian mode of rapidly fattening Ortolans. "At a certain hour in the morning the keeper of the birds places a lantern in the orifice of the wall, made for the special purpose of darkening and illuminating the room. The dim light thrown by the lantern on the floor of the apartment induces the Ortolans to believe that the sun is about to rise, and they awake and greedily consume the food upon the floor. The lantern is withdrawn, and the succeeding darkness acting as an actual night, the Ortolans fall asleep. During sleep, little of the food being expended in the production of force, most of it goes to the formation of flesh and fat. After the birds have been allowed to repose for one or two hours to carry on digestion and assimilation, the keeper again exhibits the lantern through the aperture. The mimic daylight awakes the birds again; again they rise and feed; again darkness ensues, and again they sleep. The representative sunshine is made to shed its rays four or five times every day, and as many nights follow its transitory beams. The Ortolans thus treated become like balls of fat in a few days."

[It is not improbable that chickens and other poultry might be similarly deluded into frequent voluntary feeding when put up for fattening. If they could be so induced to feed, it would be far better than cramming, so often and cruelly adopted. —Eds.]

### THE STORIFYING SYSTEM.

YOUR esteemed correspondent "J. E. B." asks me in No. 213, to detail my mode of procedure with storified hives, and I append the following remarks in the hope they may prove alike useful to him and the brotherhood generally.

First, then, as to hives. From a lengthened experience of square and octagon hives kept side by side, I have no hesitation in giving a decided preference to the latter. I invariably find, should hives be at all weakly in spring, that the bees congregate in one side of square hives, gradually but slowly extending as they increase in strength to the other; while in octagon hives they stick to the centre, increase in numbers, and go ahead much more rapidly—easily accounted for by the better concentration of heat in the octagon form. At the same time I by no means disparage square hives for other purposes: these during the working season retain no insignificant place in my apiary, and, from the greater number of frames they contain, possess advantages to the scientific apiarian clearly apparent; still I seldom employ them as storifiers, except when I run short of an octagon box, and for which reason I take care to have both sorts of uniform width—viz., 14 inches, and, that I may transfer a frame or bar handily from one to the other, have them also of the uniform depth of 7 inches.

The usual depth of Stewarton hives is 6 inches. The enlarged size I find advantageous, enabling me to employ them singly for second swarms, or for beat-out bees at the end of the season. They also afford space for a larger window for observation, 5 inches from top to bottom, 4 inches across; the glass is let in from the inner side of the box, bedded in putty or sunk to the flush, secured in addition with a few small sprigs; the outside edge of the cut is bevelled off in imitation of putty externally. I adopted this plan of fixing windows, from finding frames each on the edge of the cut when letting down into the hive, and also combs, when frames were not employed, being carried out into the window space, and of course broken when the bar was raised. Each hive contains eight bars with the usual 7-16ths slides, the six central bars are 1½, and the two end ones 1¼ inch broad. The four central bars carry frames; all are kept in their place by means of half-inch brass screws; the entrance full width to dovetails, half inch deep, with the usual moveable door.

So much for the hives, now for their management. Two of the deep or breeding-boxes are firmly tied together with cord attached to the little weighing-hooks, the slides withdrawn from the lower, and the little pegs inserted; then hive the earliest and largest prime swarm to be had; so soon as the two boxes are filled, nadir with a third breeding box. A swarm so treated in the north is not expected generally to yield any honey harvest the first season, it being more important to the storifier for the following season's procedure if possible to get the lower box combed. From the greater earliness of swarms and richer pasturage of the south, glasses or a small super might possibly be taken in addition.

To ensure honey the first season here, the following plan is almost invariably adopted. Eight or ten days after the first swarm is hived in the boxes as above mentioned, a second good prime swarm is secured in a single breeding-box, and set down close to the other. At dusk the same evening the swarm in the two boxes is raised, and the new swarm in its box placed under the slides of the lower, which are then drawn, and the morning reveals a peaceful union, with the lower box empty, which had better be at once removed, and a super placed on above for access thereto, drawing only one slide on either side, the outermost of course. The pressure of the combined force has generally the effect of compelling a detachment to be told off to take possession of the super. So soon as comb can be seen therein through the windows, the third or lowest breeding-box, formerly withdrawn, is now reinstated; as the super gets well filled, place a second empty one above the first, at the same time withdrawing all the slides of the lower so as to afford free access between the two. The first super can be removed complete, when the cells of the central combs are observed to be all sealed; the upper super then takes the place of the under, and in like manner a fresh one takes the place of the upper. All supers must be well wrapped up with old woollen or other warm material. Meantime, the population may have increased to such an extent as to require a fourth breeding-box added below to avoid the escape of a swarm. "J. E. B." will find as he becomes more experienced in this system, that a little nadir space afforded a full hive, instead of diverting attention from the super, will on the contrary only stimulate to greater activity, while withholding it, in all probability, forces a swarm to the desertion of one or more supers, possibly for the season.

In young hives standing in three breeding-boxes at the end of the season, so soon as it is observed that the bees have vacated the lowest, it had better be removed, the slides run in, and after wrapping it up in paper, it can be hung up in a dry loft or garret, and in its room a shallow eke for ventilation inserted, that eke to be removed so soon as breeding fairly sets in in spring.

After work has been fairly started in a super, or even earlier, the lower combed box can be looked out and once more set beneath the hive. As a rule bees in these hives are generally wintered in two boxes set on a shallow eke. Older hives in four or five breeding-boxes, during the working season, will generally in addition to the removal of supers and the lowest box empty of comb, be able to spare, should the season be favourable, the upper breeding-box filled with honey. As in the case of my friend "R. B." alluded to at page 478, a hive overloaded with honey, particularly at the beginning of the gathering season, is a decided disadvantage.

Sometimes, should the second prime swarm intended to be added be available sooner than the prescribed eight or ten days, it may be advisable to retain it for a few days in the box before uniting it to the other, so as to gain the advantage for that



time of the breeding of both queens. This, the timeous supply of space, and many little points of management too numerous to go over here in detail, will suggest themselves as the operator becomes experienced.

I cannot draw these observations to a close without attending to the remarks of Mr. S. Bevan Fox at page 391. That excellent contributor, I am afraid, rather misunderstood me when he concludes I reprobate the principle of his plan of placing shallow ekes between the super and stock hive. Were I to do so I would reprobate the very mode by which in days gone by I have taken my largest hauls of honey. On the contrary, I am thoroughly convinced that by no device can bees be induced to store up a greater weight of honey than by a gradual enlargement of one honey-storing compartment as in the adjuster hive, or by very shallow ekes; or by a similar enlargement, by deeper ekes, of one breeding-space, the queen's production is greatly stimulated, as has been already pointed out in the adapter hive, described by me in one of the early Numbers of the new series; each plan alike offering a strong temptation to increased storing and breeding, and avoiding altogether the hesitation often observable in taking possession of a fresh separate adjunct. Still, if we except some rare stupendous supers for ornamental purposes, the honey-dealer is ready to offer a proportionately larger price for the smallest and most completely sealed packages; and breeding in separate compartments offers considerable inducements for a more ready lightening of stocks overburdened with honey, besides employing such separated portions with facility for other colonies. Then again the recent improvements of the Woodbury bar and embossed wax sheets do much to overcome now-a-days twisted combs, and the consequent blocking up a free communication between the several portions of hives.

What I did deprecate in "J. E. B.'s" practice was the very limited fixed breeding-space (a too-common error, I am afraid, in the south, where the storifying system is not so generally adopted), and extended ceking of unfilled supers, manifestly tending to force the queen to ascend and convert such enlarged supers into second breeding-boxes or lead off a swarm.

Mr. Fox might find it worth his while giving the plan of placing an empty super above an all-but-filled one a second trial. Both points may be well illustrated by a case from my own apiary. I had this spring a Ligurian colony in two seven-inch-deep breeding-boxes; when the honey season set in put on a full-sized super; as comb-building progressed therein, nadired with a third breeding-box (empty, I was sorry to have no combed one to supply); as the super got well filled, put on a second above, drawing all the slides between the two. Shortly thereafter the first super was completed and taken off; the second, by this time well combed, was set down on the stock in its stead, and a third empty super put on above as before; the second now only wants a few cells to be completed, and the third is fully combed. I have to-day (3rd July) given a fourth empty super above all; yet, notwithstanding, should the present heat continue, I must nadir with a fourth breeding-box below to avoid swarming, as a yellow mass of idlers lie upon the board and crowd up into the cover-porch. To nadir a hive now 34 inches deep requires a little management. For any one person to attempt to raise it, besides the weight, from its top-heaviness there is a great risk of its toppling over. Such is best effected by securing the boxes together with stout cord passed round the weighing-hooks, and a strong pole slipped through them on top, borne on the shoulders of two men. With the air afforded by this additional breeding-box, to see the immense body of workers contained in a hive, then 41 inches deep, in full work is a treat of no mean order anticipated by—A RENFREWSHIRE BEE-KEEPER.

[In conclusion our Renfrewshire friend refers for further details to his reply to "J. E. B." which appears in another column.]

### THIS YEAR'S HONEY HARVEST.

AFTER twenty years' experience as an apiarian, I have no hesitation in stating this to be a most extraordinary year both for honey and swarms. Owing to the late swarming of last year I succeeded, by feeding liberally, to commence this spring with nineteen hives, many of them, of course, very light, whereas now they are all full of honey to the bottom, notwithstanding the glasses, boxes, and caps I have obtained. Fourteen hives have thrown off twenty-seven swarms, five of which went together, the remainder I put into ten hives by uniting, in

which I succeeded in all cases but one, when by neglecting to put perforated zinc over the top in lieu of the cork, they were all smothered. My first swarm was on the 10th of June, but, late as it is, many hives are full of honey, all will live. The five swarms that went together were the best-behaved mob I ever saw, no riot, none wounded, none killed.—T. W. CHALONER, *Newton Kyme, Yorkshire.*

### THE MANAGEMENT OF STEWARTON HIVES.

I SHALL be glad of your opinion on my management, and the present position, of my two Stewarton hives. The annexed rough outlines will help you to understand me the better. In the early spring they stood thus—  
As the season advanced I inserted a box between each of the above, and then they stood thus—  
I was afterwards told I ought to have put c at the bottom, and was advised to remove it. I did so, and now they stand as on the left.

A	A	To give more room, I afterwards placed a top box on each, and this became the position of them—
B	B	The first of these swarmed (I believe) last Saturday week, unobserved by any one. The second showed signs of swarming, and, to prevent it, I added, yesterday, a fifth box from below, and beneath is now the position of affairs with regard to this one.
C	C	I did not remove either c or d, because neither of them seemed to be filled with honey, although in both the bees were working well. Have I done right in the past? and what do you advise as to the future?
D	D	I have two large square glazed supers very nearly filled. The cells are sealed over, with the exception of a very small space at one end of the comb—the outer comb, I mean, as I cannot see the inner ones.
E	E	Would you advise my eking these now, or waiting till completely sealed over? An answer in the next Journal will much oblige—T. R. D.

[Your letter has been submitted to "A RENFREWSHIRE BEE-KEEPER," who, in reply, says:—"The management, on the whole, was not amiss, excepting the blunder of placing an empty between his stock-boxes. That, as a rule, causing a vacancy to any extent between the portions of storified hives, is bad practice—all additional breeding-space should be given below, all honey room above. His further procedure will, in a great measure, depend on the strength of his stocks. If the first swarmed, it has, in all probability, room enough for this season; if they come to sufficient force to afford a prospect of their completing the super, then a second might be tried above. The other stock should have a second super on at once, in like manner. One can form little opinion of such storified hives without seeing them."]

### BEEES IN LINCOLNSHIRE.

I BEGAN the season this year with five stocks, one pure Ligurian (which I have multiplied into four as pure as the parent, and three others that I cannot at present tell the purity of), one hybrid Ligurian, the queen of which was kindly sent me by "J. E. B." last year, and three black stocks, one of which, a very old one in a cottage hive, being rather weak to begin with, has afforded me no assistance in forming swarms. On transferring it into a bar and frame hive on May 20th I was surprised to find the queen to be a well-marked Ligurian, and the progeny are decidedly hybrids. Being only weak, possibly I had noticed it but little, for certainly before the transfer I had not observed a trace of Ligurian blood about it. The stock has now, however, become very strong.

I have gone entirely upon artificial swarming this year, and have thus increased my five stocks into fourteen, all strong and thriving, and, including four absolutely pure Ligurians, all but one having more or less of Ligurian blood in them. I hope yet to increase the purity of the hybrid stocks. I have also abandoned the use of all hives not fitted with frames, as I find the command this gives over the stocks is very great. The season here has been a very good one thus far, but natural swarming has been unusually late and slow. In an average of



apiaries in this neighbourhood not 15 per cent. of the stocks have swarmed at all. I had a capital natural swarm last Thursday (29th of June), from a hybrid stock, from which I had previously taken two artificial swarms, the last of which was during the preceding week. This is the only natural swarm I have had.

A curious aberration of nature has taken place with the first pure Ligurian artificial swarm, and which for some time puzzled me exceedingly. It was made on May 20th, and is as strong a swarm as ever I saw. Somehow they seemed to work very hard, but yet make very slow progress in filling the box. In about three weeks I examined them, and found the queen to be a beauty, and breeding well (I might say that in forming the swarm the queen escaped into the parent stock again during the transfer of combs, so that the swarm formed the nucleus and raised nine royal cells, six of which I excised when sealed for other stocks); but on examining the combs themselves I discovered that all the new ones were constructed with circular cells instead of hexagonal ones, and I consider that this requires fully four times the quantity of both wax and labour. On June 20th, a remarkably hot day, two small combs in this hive fell, having been partially melted at top, this caused a great commotion. Of course I replaced them when I got home, and was surprised to find that after this hexagonal cells have been constructed for a few days, but now again they have gone back to circular ones. I have never heard of a similar instance. Is it a common occurrence?

The above may, perhaps, tend to strengthen the faith of some of your readers in the superiority of so-called "artificial" swarming, though it really seems to me a perfectly natural operation.—G. F. B., *Spalding*.

P.S.—I should have had one more swarm, but in removing the stock I stumbled, and down came self, and bees, and all. This caused a great commotion, and the greater portion followed the parent, so of course I sacrificed the swarm.

[Combs with circular cells are a phenomenon I never met with, and I should therefore be greatly obliged by a specimen of this description of abnormal comb being forwarded to—A DEVONSHIRE BEE-KEEPER.]

## DISSECTION OF A DRONE-BREEDING QUEEN.

About the middle of August last year, I reared, artificially, a queen, which with a numerous colony of bees was put into a Woodbury frame-hive containing combs partially furnished with honey. On the 24th of the same month I joined to this virgin queen and colony a swarm headed by a fertile queen. The queens fought; one fell, to all appearance the fertile one, but not having marked her I cannot be certain. The hive, however, seemed to prosper, and but for drones continuing to be sent forth from it late in autumn might have been pronounced the most flourishing in my apiary. It got through the winter beautifully, kept up its large population till the arrival of spring, and showed great activity on fine days by diligently collecting pollen.

On March 24th, lively drones issued from it, but being of a small size I at once concluded all was not right. However, I determined to leave matters alone for the present, fancying that if the weather proved favourable, my virgin queen, if still a virgin, might incline to take an airing in the company of the drones. Some of the days that followed were warm and summer-like, the drone population increased, but no young workers appeared.

On April 6th, I made an inspection of the combs (which, by-the-way, did not contain a drone cell originally), and found the central ones filled with drone-breed, all in worker cells, which the bees had been at some pains to enlarge and elongate.

In some cells two and three eggs were laid, and placed at random in the apex or on the sides. Replacing the combs, I allowed matters to remain as I found them till the 7th of June, when about three-fourths of the population would be drones, the working part having sadly decreased. The result that would follow was sufficiently obvious. So without loss of time I removed the unprofitable queen and despatched her to Mr. Woodbury for dissection, requesting him to tell me whether or not she had made a successful wedding trip. I told him not one word regarding her age or history, my object being to test as far as possible the truth of parthenogenesis. On June 10th, Mr. Woodbury replied as follows:—"I have dissected out the spermatheca of the queen sent by you, and find it destitute of

the slightest trace of spermatozoa. If a young queen, she has, therefore, never been impregnated; if an old one, she has become completely exhausted, and if she laid eggs they would (like those of a virgin queen), produce drones only." I have thus stated a few simple facts, and I leave the apiarian readers of the Journal to draw their own inferences.

The hive though destitute of a queen still survives, and as none of the bees were hatched subsequent to the 22nd of August, the youngest of them is rather more than ten months old. They are all black, but I have a few Ligurians which I know, certainly to be still older.

From several circumstances I am led to think the average age of bees is six months. Those hatched in spring dying off late in autumn, and those hatched from about July keeping in vigour till spring is a little advanced.—R. S.

## VOLUNTARY UNION OF SWARMS.

I MENTIONED in my note at page 19, the frequent occurrence of double swarms in this neighbourhood, or, more properly speaking, of swarms that voluntarily unite, either from both coming off at the same time, or the noise and excitement of a subsequent swarm rousing the new settlers to turn out again and join their fortunes with those on the wing. I am now able to record the case of a triple swarm, which may serve as a pendant to that of Mr. Stuttle, recorded in the Journal of June 13th.

On the 14th of June my neighbour, Mr. S., had an after-swarm from one of his hives, which was secured about noon. Very shortly afterwards a prime swarm from another hive joined it, but some little fighting must have taken place, as a hundred or two of dead bees were found strewn in front of the hive. The double swarm worked briskly, for on the 25th the hive was quite full of comb, and four large glass supers were progressing fast. The hive was already inconveniently crowded, but on the 27th an after-swarm from a hive which had been removed to a little distance, joined it at 8.45 a.m. Both the fact itself, the long interval that had elapsed since the second union, and the hour at which the third union was effected, are, I think, somewhat remarkable. The bees for the last three or four days have been hanging out in a great mass, looking more like swarming than a swarm. I shall be glad to take note of the proceedings of this colony, but thus far no such ill-luck has befallen it as in the instance recorded by "T. G.," and it seems now beyond the reach of harm.—F. H. WEST, *Potternewton, Leeds*.

## DYSENTERY IN BEES.

THIS complaint has been very prevalent this last winter in all sorts of hives, and as some of the books say it is caused by dampness and some by feeding on certain flowers, &c, I should be glad to hear from your correspondents what they consider is the cause, as I cannot think dampness has to do with it, although it may help to cause it, as most of my bees were in straw skeps. A hive of common bees that I had joined a small Ligurian swarm and queen to had it very bad, and I thought it would have died out, and had it not been for the Ligurians being stronger, it certainly would, as the black bees died out at least a month before the Ligurians or some hybrids that I joined at the same time. If the "DEVONSHIRE BEE-KEEPER," "B. & W.," and some of your able Scotch correspondents would be so kind as give your readers their opinion on this complaint, we might find out some preventive or remedy.—A. W.

## ADDING A LIGURIAN QUEEN.

HAVING examined the hive into which I put a Ligurian queen and finding her safe and healthy, with larva in abundance in the cells, I need not say that I am well satisfied at the result. They travelled to me from Devon remarkably safe, as there were only two dead bees. When I ventured to allow the bees to get beside the queen, I uncovered the box and opened the hole at the top of the hive, when they immediately crowded into the little box, amalgamating with the Italians and queen in a very friendly manner, with that unmistakable hum when they discover what they are in search of—a sovereign.

I thought all was now quite safe and just placed it mouth down on the top of the hive to allow them to go down at their leisure during the night. However, contrary to my antici-



pations, in the morning I found a severe internal warfare, and a great number of bees stung and cast out, and still evidently at war amongst themselves. At first I could scarcely judge of the cause of the contest, but it had originated in the main body of the bees in the hive not following up those which went up into the box; and, consequently, after being separated for a short time, apparently those that were in the box with the queen were attacking every one that attempted to go in from beneath. I immediately used smoke thinking that this would at once put an end to the contest, but found it only had the effect of a cessation for a short time; and although I repeatedly used it throughout the day, they stung a considerable number, and in case war should continue during the following night, I forced those in the box to go down into the hive, and kept them running together in the hive among a slight smoke until they got completely mixed together and the quarrel was then at an end; but they were a few days before they were quite satisfied. Although there were not a few bees killed, I think there would be fully 4 lbs. weight left, so that there is no fear of them as to strength.—S.

### THE PREVENTION OF EXCESSIVE SWARMING.

I AND others would be glad to have a little more information from "B. & W." on preventing excessive swarming, and the best plan of preventing it, as giving them room will not always suffice. I have adopted the plan of returning the third, fourth, fifth, and sixth swarm to the stock in the evening; but I should be glad to have his idea on this plan—that is, to take the queen and a few bees from the swarm, and in the evening join her and the few bees to the parent hive, and, as soon as the bees find their queen gone, they would return to the hive again. This, I think, will be less trouble than returning the swarm in the evening, as they sometimes enter very slowly when there is a number. I also find, when hives are close together, that, putting the swarm in the stock's place, the bees will not enter and stay, but go to the next nearest hive or stock, and stay there. This I have had them do twice this season; but I should like to have "B. & W.'s" opinion a little fully on this subject; and would he also say how he uses the brown paper in expelling bees from the hollow trees? as the paper will not smoke unless dipped in nitre.—A. W.

### BEEES IN THE HOLLOW TRUNK OF A TREE.

HAVING derived much information from the several articles of late in your Journal on the subject of bees, I am induced to send you some notes I have made on points lately discussed in your paper, and also to request your kindly answering one or two queries. Precisely a similar case occurred to me as to "B. B." On the 7th of June a very fine swarm settled on the bough of a beech tree, at a farm which I hold some four miles from my apiary; but whilst I was making preparations for their capture they again took flight, and finally chose the hollow of an ash tree for their permanent abode. I saw at once that there was nothing for it but to fell the tree, which I set to at once, having at hand the valuable assistance of a man who had spent seven years in the backwoods of America, and whose skill in handling the axe stood me in good stead. I found, when the tree was down, that the bees had ascended at least 3 feet, and that it would be necessary to channel out the tree for that length. This we finally accomplished late in the evening, and secured one of the finest swarms I have ever seen. I conveyed them home, a distance of four miles, in a common straw skep, and transferred them the next day to one of Neighbour's Scotch hives, in which they have since worked so vigorously that on the 18th of June I put on a glass top, which is now more than half full of pure virgin honey.

Curious to say, in the very next tree to which I have alluded above, there has been established a colony of bees for the last fifteen years. How can I secure the honey from them? The tree is too ornamental to admit of being cut down, and the entrance is about 20 feet from the ground. Of course the bees would have to be smothered.

From a stock hive I this year had two swarms, the second in my absence and much against my will. I afterwards put on the stock hive a large bell-glass 10 inches in diameter, which is now literally packed with the finest honey. What is the best way of removing this? and would it be advisable to put on another glass at this period? What is your opinion of Natt's collateral box-hive as compared with the super system? Could

not bees hived in an old single straw hive be made to work on this principle by placing another hive or box on the table by the side of the hive, and establishing a communication by means of a groove in the table covered with glass, and the passage to which could be commanded by a zinc slide?—SOTIN.

[We know of no means of securing the honey without injuring the tree by laying bare the cavity occupied by the bees. Insert an empty box between the super and the stock hive. The former will be found comparatively deserted the next day, when it may be taken off, conveyed to a little distance, and the remaining bees permitted to return home, a bright look-out being kept in the meantime to guard against robbers. Putting on another glass can at any rate do no harm, but take care that the stock hive is sufficiently well stored to stand the winter. We prefer the storifying to the collateral system. You will find several modes of adapting the latter to common straw hives described in Taylor's "Bee-keeper's Manual."]

### OUR LETTER BOX.

**GAPES IN YOUNG POULTRY (Loose Box).—**Give those affected a pill of camphor, the size of a small pea, daily until cured. Keep a piece of camphor in their water-trough.

**MARKINGS OF COCHINS (Coloured China).—**It is common for Partridge Cochins to have coloured breasts, but it is by no means desirable. Our experience is, that it is hardly possible to breed them all with purely black breasts, even from the best strains. Some should, however, have them. Where the chickens have only a few brown feathers, we should decidedly keep them till they attained their adult plumage, in the hope they would moult them out; but where it is a decidedly variegated breast, black and brown, we should get rid of the bird. The work you name will have coloured plates, but we do not place implicit dependence on such plates. You will see that the classes at most shows are for "Buff and Cinnamon." This has caused a laxity in lotting and matching which would not have been allowed formerly. There were originally three classes of Cochins, which are now intermixed—the Buff, which should be uniform in colour; the Cinnamon, the cock of which was the colour of wetted cinnamon, the hens' bodies a lighters shade of the same, with very dark hackle; the Silver Cinnamon, the cock with a very light body, while the tail and hackle were of very pale red brown. The hens of this breed, when they were kept pure, were among the most beautiful of the tribe, the whole body was a most beautiful French white, giving a soft silky appearance to the feathers, and which was not belied on bandling. The only variety of colour was a lemon-shaded hackle. These have all inter-bred, and have originated the colours you describe. The third bird you describe, being all Buff, seems to us the best coloured; but the others would pass with well-matched Buff hens.

**GAME FOWL MOTIONLESS (M. P. C.).—**Your fowl had a cramp or a temporary vertigo from blood to the head, or some injury to the back. In either case your treatment was the right one. We have known a slight blow or a fall to injure the spine, and cause the apparent paralysis you mention for a few minutes, or sometimes for a longer time, and a perfect cure has been effected by the struggling of the fowl when caught.

**DISEASES OF PIGEONS (D. O.).—**Are you sure that there is not something unwholesome in their food? Has any of the corn ergot, or has it been otherwise damaged? Peas are not good for laying Pigeons; they are apt to lay soft eggs on them. Hempseed is too exciting. They should have access to chalk or old mortar. Or does their weakness arise from diarrhoea? You may try pills containing one grain of calomel, one-twelfth of a grain of tatar emetic, and follow it by pellets of cod liver oil and flour.—B. P. E.

**NOTES OF BRITISH BIRDS ARRANGED IN MUSIC (E. M.).—**We do not know of any book in which such music is noted.

**HIVES (An Amateur).—**We consider Neighbour's improved cottage hive rather too small, but it is unquestionably large enough for sustaining a swarm through the winter. Zinc ventilators are not essential to the successful working of bell-glasses as supers. It is better to remove one of the queens in uniting, but the bees will generally do this for themselves. We have, however, known instances in which both queens have been sacrificed, and stock lost in consequence.

**HONEY (A Bucks Bee-keeper).—**Apply to Messrs. Neighbour, 127, High Holborn, and 149, Regent Street, London.

**PAYNE'S IMPROVED COTTAGE-HIVE (F. H.).—**We do not know where this can be obtained, if not of Messrs. Neighbour. Why not buy our "Bee-keeping for the Many?" You can have it free by post from our office for five postage stamps. In that there is a drawing of Mr. Payne's hive, and any maker of the common straw hive could make one from that drawing.

### LONDON MARKETS.—JULY 10.

#### POULTRY.

THE supply increases, and the trade declines earlier than usual on account of the dissolution of Parliament. We may look for low prices, if the heat of the weather moderate. If it remain as it is now, a few fresh goods will every day make good prices, while there will be loss on the bulk of poultry sent.

	s. d.	s. d.		s. d.	s. d.
Large Fowls.....	3	6 to 4	0	Grouse .....	0 0 0 0
Smaller do.....	2	0 4	0	Partridges .....	0 0 0 0
Chickens .....	1	6 1	9	Hares .....	0 0 0 0
Ducklings .....	2	6 2	9	Rabbits .....	1 4 1 5
Guinea Fowls .....	0	0 0	0	Wild do.....	0 8 0 9
Goslings .....	6	0 6	6	Pigeons .....	0 8 0 9

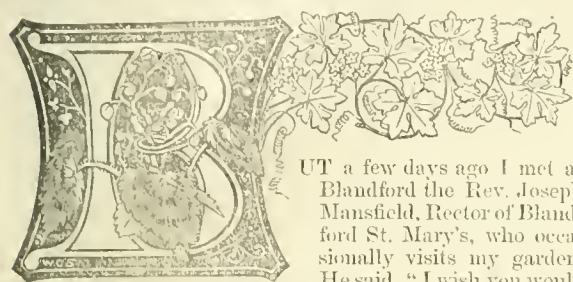


## WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 18—24, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
18	Tu	Cotton Thistle flowers.	74.6	50.4	62.5	18	6	44	6	48	26	46	1	41	25	5	54
19	W	Orch flowers.	72.8	50.7	61.8	21	7	4	5	8	12	1	3	5	26	5	58
20	Th	Sea Brynne flowers.	72.5	50.5	61.6	22	8	4	4	8	5	2	58	5	27	6	2
21	F	Sun's declination 20° 26' N.	73.2	50.6	61.9	17	10	4	2	8	3	3	43	6	28	6	5
22	S	Carrot flowers.	73.1	51.5	62.3	22	11	4	1	8	5	4	22	7	29	6	8
23	SUN	6 SUNDAY AFTER TRINITY.	73.8	52.1	63.0	19	12	4	0	8	14	5	52	7	1	6	10
24	M	Corn Parsley flowers.	72.5	52.0	62.3	14	11	4	58	7	20	6	19	8	2	6	12

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 73.2°, and its night temperature 51.1°. The greatest heat was 91°, on the 18th, 1859; and the lowest cold, 27°, on the 16th, 1863. The greatest fall of rain was 1.37 inch.

## SELECTION OF STRAWBERRIES AND THEIR CULTURE.



UT a few days ago I met at Blandford the Rev. Joseph Mansfield, Rector of Blandford St. Mary's, who occasionally visits my garden. He said, "I wish you would

write a treatise on Strawberry culture, and also give a selection of Strawberries that are good and easy of cultivation in lands generally." I assured him that Mr. Underhill's and Mr. Cuthill's treatises were excellent and amply sufficient. Still, as these may not be generally known, it may not be amiss to say a few words through a periodical of wide circulation.

It is difficult to make a suit of clothes to fit the whole species of man; and it is not less so to select Strawberries to suit every man's taste and widely different circumstances. As regards tastes—one man likes the Hautbois flavour; another likes a vinous juicy Strawberry; another prefers an acidulated flavour; another likes the Pine flavour; another does not care what the flavour is as long as he can get quantity, plenty of sugar, and Alderney cream. My taste is set to Hautbois, Pine, and Alpine flavour. As regards soils, there is a great difference between clay or deep loams, and sandy or chalky soils like mine. Moreover, as regards some sorts, aspect and situation (high or low) make a difference. You will see, then, by these circumstances and considerations what a difficult task lies before me to make a suit of clothes which is to fit everybody. I will, however, do my best.

I will commence by naming Strawberries of great excellence, suitable only to first-class lands and painstaking cultivators. I doubt whether they can be depended upon year after year in any land. When they succeed, you hear of it; when they fail, people hold their tongues! 1, British Queen and her synonyms, respectively in shape and flavour, or both, *Magnum Bonum* and *La Chalonnaise*; 2, *Carolina Superba*; 3, *Filbert Pine*; 4, *La Constante*; 5, *Myatt's Pine Apple*; 6, *Crimson Queen*. The last is late, good, and the surest.

I now come to Strawberries that do well for me and are excellent for the purposes for which they are designed. 1, Sir J. Paxton, the earliest that is good, a hardy plant, great cropper, and handsome show fruit. 2, *Eclipse*, the best early sort. 3, *Rivers's Eliza*, delicious, and lasts a whole season; I never knew it fail from any cause. 4, *The Royal Hautbois*, cropping well for the third season. 5, *Scarlet Pine*, the highest-flavoured and most pined sort that has ever been here; the plants are stalwart, and resist frost and drought. 6, *John Powell*, good plant, good cropper, good colour and form, and delicious. 7, *Wonder-*

ful, a heavy cropper and very good; it requires plenty of water in a torrid summer, or it would become hard. 8, *Empress Eugenie*, large, handsome, a heavy cropper, and of fair flavour, but not equal in flavour to some of the above. 9, *Bien White Pine*, the best white; it is not ripe till it is yellowish. 10, *The Frogmore Late Pine*, a noble late sort, and liked here by all. 11, *The old Red and White Alpines*. These eleven sorts are on the whole the best out of more than 130 sorts that have been sent here for trial. They seem to combine all that we want. If we can get better of course we shall be glad, but in their different lines and seasons they will take some beating. If more than these are desired, these are good and good croppers, but not equal to some of the above:—*President*, *Alice Maude*, *Trollope's Victoria*, *Marquise de la Tour Maubourg*, *Marguerite*, *Ingram's Prince of Wales*, and *Sanspareil*.

The following are on trial, planted late in the spring. Of course, some allowance must be made. They were kindly sent by Mr. Ingram, Her Majesty's gardener. The *Fairy Queen* is nicely coned, handsome, sweet, and delicious. The plants have stood the heat very well. More I cannot say at present. It is a great favourite at *Frogmore*. No. 10 is a strong and quick-growing plant and runs freely. It was pegged June 24th. The berries are coned, large, and handsome. It is late. Mr. Ingram says it will be superior to the *Frogmore Late Pines*. Its seeds are prominent. I have a heavy crop of noble *Frogmore Pines*, by which I have tested it. It is delicious, and though it is not so large or highly pined as the *Frogmore Pines* it is sweeter. *John Powell*, the *Frogmore Pines*, the *Fairy Queen*, and No. 10 do great credit to the raiser. I should, however, like to see the last two go through a severe winter—a severer spring they could not encounter. To the two former I will give a first-class certificate, as I have had them here in scorching summers and severe winters, and, what is worse, in a severe spring. I have this morning (July 5), received a kind and complimentary letter from Mr. Ingram, asking me to name it, and expressing a wish to call it after me. I have no objection to its being called "Mr. Radclyffe," or "Rushton Radclyffe" if he like it better. The Rose called after me does me great honour, and this Strawberry will do no less. They are both a credit to the raisers. I think it safer to call it the above name than on limited trial to call it "*Frogmore Pine Improved*." Time will prove this. I beg to thank Monsieur Verdier and Mr. Ingram for this high compliment.

I now come to cultivation. There are very few cultivators of Roses and Strawberries in the kingdom. Even those who manure them do little or nothing towards watering them.

1. *Preparation of the Soil*.—Whether land be light or strong it should be trenched. Though Strawberries like great moisture and heat they also like free drainage. If water lies on the surface, and zero bites, the roots will be injured; and though the plants may flower well and set their fruit, they will not complete their crop. After trenching, the land should subside. Mine is light land; and if the land is dry I beat it down with a spade to prevent



its subsiding from the plant. Strong land does not require so much preparation previous to planting on account of its gravity.

2. *Planting*.—The plants should be planted to their base, or collar, and no deeper. The roots should be spread out on all sides like a duck's foot. The soil should be moderately pressed down on the roots and watered, and if the weather is hot, a flower-pot should be put over the plants by day, and removed at night. If they are planted from pots, the pot-soil should be slackened with the hand. If the roots are matted round the ball of earth, they should either be cut off with a sharp knife or carefully spread out on all sides. The best time to plant is, when the glass falls. The best seasons here to plant, with a view to cropping the next year, is from January to July. Eliza and Wonderful will crop well, even if planted very late. In this case you must put the plants in thicker, and after cropping remove every other one. Every plant of them will flower however late the runners are taken. As regards distances, it is a matter of judgment, resting on the quality and condition of the land, and also on the rate of growth of the plant. I am inclined to think, that in light land 18 inches every way is the best distance. Plants intended to stand over two crops should be planted wider. I do not recommend more than two crops. The British Queen, Filbert Pine, and La Constante will rarely bear more than one crop. If they can be got in early, I think with Dr. Roden, annual plantations of these sorts are best.

3. *Treatment after Planting*.—The soil should be continually surface-hoed (shallow), and the runners cut off. Water in dry weather should be constantly and liberally poured on the plants. Of course, the weeds should be kept down. The necessity of protecting young plantations during their first winter depends much upon the nature of the soil and their establishment. Strong land does not need so much winter-mulching as light porous soils. If young plantations winter badly, the best way is to keep the runners off and dis-flower them, they will then repay you manifold in the following year. I never break the soil of my Raspberries at all, and merely scratch lightly the soil of my Strawberry plantations. My crops are always heavy and complete their final production.

I must here pause to observe two errors that seem to be prevalent. The first is, the belief that a runner taken from a plant that has not fruited will be barren. If it is taken from a staminate plant (a male plant), of course that will be the case *ad infinitum*, but it is not true of hermaphrodites, which are the sorts that I keep, prefer, and recommend. Indeed, I believe that most of our European sorts are hermaphrodites. The other error is, that only the first runner on a string will bear fruit. If the Strawberry were to run a mile, the last runner would bear fruit, but the first runner would bear best, because it would be earlier established, and have more time to make crowns.

4. *Treatment under Flower and Crop*.—Do not water them when in flower, at least do not water the flowers. As soon as the berries are set, till they redden, in dry soils you can scarcely put on too much water. In their last stage water or rain acidulates them and spoils the flavour. After the first production is ripe pick clean off, and water the plants picked copiously. For lack of this, in many places the Strawberry crop and season will be short. As soon as they are in flower, put clean straw in the ranks and between the plants; and when they begin to redden put a net over them, which will cost you 1d. per yard. I have bought 800 yards this spring in addition to my previous stock. Blackbirds and thrushes being "hungry bestead," for want of worms and slugs, have been very busy; but "John Edgington" has baffled them. I like to see and hear them, but every "twit" of a blackbird disarranges the "ganglionic process" of Stephen, who seems to find relief in saying, "I wish I could lay hold of you, I would twist your neck for you!"

5. *Treatment after Cropping*.—I always, except when I want runners, cut off the runners and bury the straw with black dung, and water the ranks and whole surface copiously after cropping. I have given up the dangerous practice of cutting off the leaves. The above treatment brings up new leaves, which harden before winter sets in, fold over each other, and protect the crowns and roots. To this treatment I attribute my good crop this critical season. In natural soils it might not be a good plan to manure so highly close after cropping; but the plants should be watered and encouraged to make new roots from base or collar. The sooner they do it the better they will winter and crop. A large volume of perpendicular and horizontal roots is absolutely necessary to heavy cropping.

The failure of the crop this year, which I hear is general, must not altogether be attributed to spring demolition, but to deficiency of water during and after cropping last season. The earth was like a fryingpan, and the plants thus neglected suffered damage at their crowns and base. This neglect was followed by an hyperborean winter, and by a septentrionie spring. Add to this a torrid droughty summer and an inadequate supply of water, and you see why people have no Strawberries! I live nearly at the base of a steep chalky hill, where the land is chalky and without clay (equal chalk and clay is what we call "white land," it is the best in the world), and very dry. I cannot water the plants from the rivulet, as stated by "D." There is a nine-feet Thorn hedge between my garden and the rivulet. Everything here is watered from the pump! I keep two men at it with extra pay and beer. By following the rules I have given you, both this year and last, I have had a splendid crop. My annual Strawberry party was June 22nd. Eighteen came and tried to eat me out, but I beat them by several dishes. All the fruit used was fine and fit for Covent Garden—viz., Royal Hautbois, Scarlet Pine, Rivers's Eliza, Wonderful, Eugénie, and Trollope's Victoria.

6. *Procuring Runners*.—If they are intended to be cropped the ensuing season, and require a long time for establishment, which is not the case with the sorts that I keep, you must have two runners per plant during the fruiting season, pegged into pots, and removed as quickly as possible; or you must keep plants of the sorts required for running purposes entirely. It is absolutely necessary to plant the Queen early in any kind of soil. It is advisable to get the Frogmore Pine in early—a hardy plant when established. Early establishment is a grand ward in the key of Strawberry success!

7. *Manures*.—The grand constituent of a Strawberry plant and berry is potash. Good clay soil abounds in potash, and, therefore, it is the best soil for Strawberries; cow manure liquid and solid, is the best manure because it abounds in potash. All animal manures, liquid and solid, contain it. I use chiefly black dung, nitro-phosphate, soot, liquid manure, Peruvian guano, and strong beer grounds. They are all good for the purpose.

For strong land unfermented manure is best; for light lands the converse is best. Strong land does not require to be so highly or so frequently manured as light land. In my light land I find that I can never manure a Rose tree or Strawberry plant too highly, or too often. The plantations that are now picked clean are manured over the straw, and a fine thunder shower patters the manure into them.

In conclusion, keep a few things in your garden, and have them all well done. Keep only such things as are suitable to your land, situation, and circumstances. Do things at the right time, and multiply only those things that are good, and that do best for you year after year in this variable climate. When Stephen passes Jules Margottin and Eliza, he frequently cries out, "That's the sorts after all!" Above all, establish a sufficient number of pumps and a willing pumper. The former is of no use without the latter. Stephen and Fred have done good service, and my "Isaachars may now yield their shoulders to the burden," for there is "a sound of abundance of rain!"—W. F. RADCLIFFE, *Tarrant Rushton*.

## GOSSIP ABOUT ROSES.

I was indebted this season, as I was last, to the kindness of M. Eugène Verdier in bringing to the "Mirabeau" (an hotel which, by-the-by, I can conscientiously recommend to any visitor of Paris), some blooms of his new Roses, and also some of those of last year; and as I believe my estimate of those he sent out last autumn was tolerably correct—viz., that Maréchal Niel and Rushton Radclyffe were the cream of the set, so I think, unless he has others which he may offer by-and-by, I can lay my hand now on the best of those of the present season. He has one flower which will be, I think, a decided acquisition. It is a large pink flower of the Louise Peyronny style, somewhat of a lighter shade of pink, perhaps, but having the same size of petal and the same bold and fine-looking outline; it is of fine vigorous habit with rich-looking foliage. I am not quite sure that the name for it is thoroughly decided, but shall know this before the time comes for the lists to be looked over (it is numbered 134). Then there was another flower of the Souvenir de l'Exposition type, like it in foliage, very fine and large, having, doubtless, a grand appearance on the tree; but it is not a style of Rose much in favour with us



in this country. The *Souvenir de la Reine de l'Angleterre*, *Madame de Cambacères*, and such like *Roses*, must eventually be pushed on one side, to give place to *Roses* of a better class, combining size with shape. It is, I fancy, a great mistake to suppose we have what we want in *Roses* as yet; this will not be until we get crimson reds, dark crimson, and whites, with the shape and general contour of *Comtesse Cecile de Chabrillant* or *Coupe d'Hébé*. A third *Rose*, that promises well, was of the growth and foliage of *Jules Margottin*, fine in form, not very large, and very sweet-scented. I have placed these in the order in which I conceive their merit entitles them to.

As I have already said, it was too late for the Lyons *Roses*, and, consequently, I could only obtain information by letter. M. Guillot, fils, has four *Roses*, one of which seems very much to resemble, if one may judge by description, the *Rose* of M. Eugène Verdier, which I have already alluded to. It is called *Josephine de Beauharnais*, and is described to me as of a very beautiful delicate rose, with silvery white edge to the petals, a seedling of *Louise Peyronny*, of which it retains the character, both in wood and foliage. He has also another which seems to bear a striking analogy to the second *Rose* of M. Eugène Verdier, as it, too, is a seedling of *Triomphe de l'Exposition*, very well formed, superb velvety red, shaded with violet. A third *Rose* is *Pline*, a seedling of *Mère de St. Louis*, of which it is said to have retained the character in nearly every particular. Besides, he has a seedling Bourbon from *Louise Odier*—*Madame J. Gay*—I should imagine, from the description, very similar to *Emotion* and *Louise Margottin*. Of the four, one would have little hesitation in adopting M. Guillot's own view—that *Josephine de Beauharnais* and *President Mas* will be the best. From neither M. Charles Verdier nor M. Levesque did I obtain any information.

Of course I paid my old friend *Margottin* a visit, and, as usual, obtained a great deal of interesting *Rose* information from him; and, although his *Roses* (of which, I believe, he has a couple), to be let out this season were not in bloom, yet I had a long and broiling walk through his grounds on one of the hottest days I experienced during my trip. He has a plant of *Jules Margottin* this year which has come all marbled; a curious state is that marbling, for it seems, in nearly every instance, to affect the style of the flower, as well as its colour. I have myself this year a plant of *Anna de Diesbach* so marbled, and I can see that the style of the blooms is evidently altering. Whether it will be permanent I cannot yet decide; the autumn will tell whether these marbled flowers will remain true to their character. As a general rule, *Margottin* considers that the shaded *Roses* come better in France, and the bright ones in England. Certainly these violet-tinted and *ardoise* flowers are not general favourites on this side of the channel. In speaking of white *Roses* he said that he believed that *Made-moiselle Bonnaire* was a seedling of *Général Jacqueminot*, and that he had had numbers of white *Roses* from that most prolific parent, but none of them worth retaining.

I endeavoured to obtain from M. *Margottin* and other French *Rose*-growers their opinion of the *Roses* of last season, and I think that they have arrived pretty much at the same conclusion that we have. Thus *Duchesse de Caylus* was by all acknowledged to be a *Rose* of great merit, as was also *Rush-ton Radclyffe*, both of which I anticipated would prove to be gems. Of *Duchesse de Medina Celi* the opinion was not so favourable, and as I have seen but one flower of it this year I cannot say whether they are correct. Of *Charles Margottin*, I saw hundreds of blooms at the raiser's, and a very remarkable *Rose* for brilliancy of colour and substance of petal it is, in the style of *Count Cavour*, but brighter still; it is most certainly one of the brightest *Roses* out. At *Levesque's* I saw large quantities of *Madame Eliza Vilmorin*, but although brilliant in colour, it is wanting in that neatness of form and smoothness of petal we look for. *Denis Heyle* is a very fine and large flower in the style of *Anna de Diesbach*, but deeper in colour. *Xavier Olibo* was also considered to be a good *Rose*. It is somewhat difficult to keep in one's mind the *Roses* of the different seasons, as they come so rapidly one on the other; and in the metropolis, at any rate, one is struck with the few *Roses* of the present season that one sees. In the class for new *Roses* you get the *Roses* of three or four different years, and rarely more than five or six of the present season. Of those flowers which were distributed to the great bulk of *Rose*-growers in the autumn of last year I have noticed, as especially good, the following:—*Pierre Notting*, a deep violet burgundy-purple rose, of good form and substance; *Madame Victor Verdier*, a fine deep rose, of exquisite build, and great depth;

*Duchesse de Morhy*, a sweetly-coloured rose; *Baron Pelletan de Kinkelin*, purplish crimson; *Kato Hausburg*, bright rose, and prettily-cupped flower; *Madame Derreux Douvillé*, rich deep pink; and *Souvenir de Maréchal Serrurier*, deep crimson purple, cupped and full. Of the others that I have seen, *Amiral Lapeyrouse* has not enough stuff; *Bernard Palissy* is a very effective flower, but not of the shape to please a great many; *Centifolia rosea*, a pink rose, but nothing remarkable; *La Reine de la Pape*, rose shaded with violet, not good; *Louis Van Houtte*, too full, does not open well; *Madame Macker*, delicate in habit; *Maréchal Forey*, rough and bad. Further acquaintance may modify these views, but at present this is the estimate I have been led to form, and other *Roses* that I have not seen may take a good place.

The season generally, while favourable in the early part of the year, did not fulfil its promise. The intense heat of June fairly beat some of the most experienced growers, and in many grounds mildew set in with great force. The cool weather and few rains we are now experiencing will give a good second growth, and we may possibly have a fine autumnal bloom. And so for the present ends my *Rose* gossip.

As several letters have reached me about the yellow *Rose* of *Lacharme's*, I may say here that it will not be let out till the autumn of 1866.—D., Deal.

### DINERS À LA RusSE FOR THE MILLION.

"WHAT is a diner à la Russe?" asks your correspondent "D." of Deal. "D." answers his question, at least so it seems to me, very correctly, except in saying that the old *épergnes* and *candelabra* must give place to a lighter and more elegant ornamentation in the shape of flowers. Now I dine very constantly, and I think very prettily à la Russe, with an *épergne* of ancient date and pattern in the centre of the table. This *épergne* is composed of silver, it has a bowl for flowers raised considerably above the table in the middle; while lower down eight silver branches spring out, each holding a small vase. When tastefully ornamented with flowers and Ferns, few things could look more graceful and light than this old *épergne* with the dessert arranged in plates of valuable china around it.

But many people may not possess an old *épergne*, and every one having a tolerably well stocked garden may enjoy this prettiest and most economical way of dining. I will suppose, that besides my garden I have a small farm with a trout stream running through it; I wish to have a few friends to dinner without much expense in this month of July. I have in common with most farm-houses, a few old china plates, that belonged to my grandmother, and a small stock of glass. I place a small saucer topsy-turvy on a soup plate, on the saucer I put a tumbler, and in the tumbler a champagne glass or old-fashioned rummer. Round the soup plate I dispose the fresh green fronds of the *Polystichum angulare*, or *neuleatum*; they should be all of the same size, so as to lie down evenly in a circle on the fair white tablecloth. I dispose smaller Ferns so as entirely to hide the saucer and tumbler, and then I fill up the soup plate with a wreath of white *Roses* and blue Cornflowers, or the *Verbenas Purple King* and *Snowflake*. From the tumbler I depend my finest *Fuchsias*, white *Calceolarias*, *Jasmine*, and blue *Salvia*, with a few fronds of *Polypodium dryopteris*. My best Ferns and *Pelargoniums* I keep for the champagne glass.

This arrangement can be varied in a hundred ways—*Spiraea arifolia*, mixed with *Humea elegans* and a few Fern fronds, has a very good effect. I place this bouquet in the centre of the table, bending the circle of Ferns to make them lie on the tablecloth—then I put specimens of all my best *Roses* with fronds of Ferns in six rummers, and dispose them between the outer circle of fronds. My dessert of *Cherries*, *Strawberries*, *Raspberries*, *Gooseberries*, with *Currants*, white and red, I put in six of my old china plates, with a delicate frond of one of my favourite Ferns here and there.

The trout stream furnishes the fish, which my husband gets up an hour earlier in the morning to catch, and is rewarded with one fried for his breakfast, which I need hardly say puts him into a good temper till the hour for company smiles arrives. I can spare this delicacy with the greater ease because I need only have just enough fish to satisfy my friends; dining à la Russe saves much waste, and my fish is brought in hot from the kitchen, instead of waiting on the table to get cold while the company seat themselves. If the fish is preceded by soup,



I would have the latter made of green Peas, for which I have an excellent receipt, requiring no meat. Being an early riser, I should make this soup while my husband was catching the fish, but I would take care and be tidy by the hour for breakfast. The farm would provide a couple of chickens and a leg of lamb.

My second course should be toasted cheese—that is, cheese *boiled* with a little cream, put on toast, and sent to table very hot. This dish insures good temper for the rest of the evening. The sweets—Malvern pudding (fruit boiled, sweetened and put in a basin lined with slices of thin bread—to be eaten cold with thick cream poured over it), and a baked plum pudding; this is good both hot and cold, and therefore more economical than a boiled plum pudding. The vegetables should be early Broccoli and first-rate Potatoes.

Strictly speaking, none of these things, with the exception of the fruit and flowers, (some people only have flowers) should be put upon my table, but they might all appear there, and yet the dinner not have the appearance of a cannibal feast. The expense of this little dinner would be small, very small, and its festal appearance would show my friends that I esteemed their company an honour, and that it did not require any great outlay to dine à la Russe, and bring to a homely life some of the elegancies of society, supposed, erroneously, to belong only to the rich.

In a churchyard near my old home, there is an epitaph recording that—amongst other virtues, supposed to be a sort of passport to heaven—the lady whose remains rested beneath “contrived to make a very good appearance on a small income.” I always felt quite hot when I read that epitaph, in sympathising with the great exertions of the poor lady, but it was no small praise after all; I know something of that lady's life, and the trying to make a good appearance is an amiable as well as a very pleasurable excitement, and causes me oftentimes to forget that I am (what the “WILTSHIRE RECTOR” declares I am not)—AN OVERWORKED WIFE.

### STOCKS AND THEIR INFLUENCE.

WHERE the soil and climate are suitable for the growth, the perfection of bloom, and for the maturity of the seed or fruit of any tree, there can be no doubt that the organs, naturally provided for the supply of sap, will afford it of proper quality and sufficient quantity for every want of the tree. Then, if trees and shrubs succeed best, are more productive, and freer from disease, when supplied with sap from their own roots and passing through a stem of their own peculiar kind, why do we graft or bud on a stock of another species or variety? We do bud and graft, however—1st, For the increase of a particular kind of tree, and on stocks of a different species or variety, because they are the more readily obtained; 2nd, To fit the kind for some particular soil; 3rd, To produce some alteration in the habit of the tree or shrub. There is a prevailing impression among gardeners that the stock communicates to the species or variety of tree or shrub grafted upon it a portion of its own power to bear cold without injury. This idea, however, is wholly erroneous, as is amply proved by the tender kinds of Roses on the Briar being destroyed by severe frost, and also by the circumstance that the branches of every variety or species of tree are much more easily destroyed by frost than its roots. Physiologists agree in their views as to our grafting on stocks which are of less growth than the scion, and consider the practice wrong where extensive growth and durability is wanted, but eligible whenever it is desirable to diminish the vigour and growth of the tree. Mr. Knight draws these conclusions from his experience—“That the stock of a species or genus different from that of the fruit to be grafted upon it can be used rarely with advantage, unless where the object of the planter is to restrain and debilitate; and that where stocks of the same species with the bud or graft are used, it will be found advantageous generally to select such as approximate in their habits and state of change, or improvement from cultivation, to those of the variety of fruit which they are intended to support.” Mr. Johnson, in the “Science and Practice of Gardening,” p. 200, states “The only situation in which we can believe that the stock of another can be advantageously employed, is where the soil happens to be unfriendly to the species from which the bud or graft is taken.” I have no doubt as to the general conclusions of Mr. Knight being correct so far as the health of the tree is concerned; but I find him all at sea as to grafting or budding on a different species or genus restrain-

ing the vigour of the scion. I find the Apricot much less vigorous grafted on a stock of its own species than on the Plum, it being a well-known fact that all varieties or species take much more tardily from buds or grafts on stocks from stones or seeds of their peculiar kind, than on those of a different species or genus nearly enough allied to permit of the operation succeeding. It is also remarkable that the scion or bud of any tree will take much more readily on another part of the same tree, the tree itself being budded or grafted on a stock of another species or variety, than when budded or grafted on a stock of the same variety. Generally all trees and shrubs seem to take better on a stock of a different species or variety than on one of their own peculiar kind.

Now, by budding or grafting on a stock of less or slower growth than the bud or graft, as in the case of the Peach and Nectarine on the Plum, the aim seems to be to restrain vigour, and render the tree more productive. Apart from any influence of the stock, grafting alone has a tendency to increase fertility and lessen the vigour of the tree. It acts in the same manner as ringing, or removing a ring of bark from a branch or stem of a tree; both act by arresting the downward flow of the sap. Mr. Knight writes on this point—“When the course of the descending current” (elaborated juice or sap), “is intercepted, that necessarily stagnates and accumulates about the decorticated part, whence it passes into the alburnum, is carried upwards, and expended in an increased production of blossom and fruit.” Though this was written with reference to ringing, yet it may be taken as having the same bearing on grafting; for Mr. Johnson, in “Science and Practice of Gardening,” page 195, when writing of the influence of the stock, states that “the sap becomes more rich, indicated by its acquiring a greater specific gravity in some stocks than in others,” instancing a Black Cluster Vine stock on which a Black Hamburgh had been grafted. According to this dictum we ought to find the Pear on the quince more prolific, and giving larger fruit, of better flavour, than on the pear stock; and the same results should attend all grafting or budding on a stock of less growth, and of a different species or genus. It is, indeed, verified by practice; the Pear on the quince, the Peach and Apricot on the Plum, arrive at a fruiting state earlier, fruit-buds are more abundantly formed, the blossoms set better, the wood and fruit ripen earlier (simply from the more abundant deposition of cambium, which we term the ripening of the wood), and the fruit is larger, higher-coloured, and richer-flavoured than when on their own stocks.

Grafting or budding, therefore, on stocks of less vigorous growth than the scion or bud, restrains the growth, rendering it more productive, though it may endure for a short time only ere disease commence, and the parts decay; or it may be permanent, and of this I only know one instance—the Pear on the quince. The reason, in this case, is not because the quince does not restrain the growth of the scion, but because the head or tree is kept close-pruned or stopped, the growth of stock and graft being made culturally corresponding. It is a common error to conclude that, because Peaches on the Mussel Plum are short-lived, Pears on the quince must be short-lived also. Nothing can be brought to bear showing the parallel in these cases. No doubt the Pear on the quince is short-lived when it is allowed to outgrow its stock, as the Peach on the Plum always does, in consequence of being allowed to make shoots a yard long, to be cut down at the winter pruning to 9 inches or a foot. Were close-pruning or stopping practised on the Peach, I have every reason to believe it would be as long-lived as the Pear on the quince, of which I know trees as dwarfs, close-pruned or stopped, upwards of half a century old, which annually produce good crops of large, fine-coloured, full-flavoured fruit. Now that we have Peaches on the Plum producing their fruit on spurs, I have every reason to think that they will prove as healthy, as fruitful, and as long-lived as the Pear on the quince, “close-pinched” so that the growth of stock and bud, or graft, correspond. Perhaps Mr. Rivers may have some of his original Peaches on the Plum close-stopped so as to produce their fruit on spurs that even yet produce crops of large-sized and good-flavoured fruit? If it be so it would go a great way to prove that fruit trees on stocks of slower or less growth are only short-lived when the scion is allowed annually to outstrip its stock in the growth made.

Further, in budding or grafting on a species or genus different from that worked upon it, we find that the bud or scions take much more freely, and make stronger growth for a few years (the Peach on the Plum losing its vigour through the formation of fruit-buds at the third season of growth), than on a stock of



its own from seeds. Peaches when budded in the latter way take badly compared with those on the Plum, make less growth, and never outgrow the stock, both thickening alike; and, unlike the former, the trees annually become stronger, the sap flowing more freely into the small or lateral shoots, and are in every way more healthy, less fruitful, and the fruit deficient in size and flavour. I am persuaded that, however wrong grafting on a stock of a different species or genus may be physiologically, it yet serves our purpose better than when a stock of the same kind is employed—we obtain an earlier and larger produce of finer fruit, in a shorter period of time; the question of longevity being of secondary importance when trees are so easily replaced by others equally productive with their predecessors.

The greatest evil of grafting on a stock of a different species or genus is that disease is likely to ensue. I think it is in some measure owing to the increased specific gravity which the sap of an Apricot on the Mussel Plum acquires, that the disease called gum, which so disfigures the Moorpark by the dying of the main branches, is brought on. It is certain that working on a stock from a stone of the same Apricot renders the tree free from this disagreeable malady. The buds, however, take very unkindly, and grow much more slowly for the first year or two, and seldom attain so vigorous a growth as when on the Plum. The Peach, too, on the Plum is liable, like the Apricot, to gum on light loams on gravel, and on all soils the sap does not flow so freely into the lateral shoots: hence an old shoot does not continue either healthy or vigorous for any length of time, but requires to be renewed with a younger shoot or branch. Peaches on the Almond stock succeed better than those on the Plum in soils free of stagnant water; whilst on a very light loose gravelly soil I am inclined to think they would do admirably on the Apricot stock. I am not certain whether the drain on the resources of the Plum stock, by our present system of growing Peaches on what I may term the "long-rod" system, is not altogether at variance with the nature of both stock and scion. The nature of every tree is to grow freely whilst young, and afterwards to grow less and fruit more. By reducing the branches of any tree considerably at the winter pruning we obtain more vigorous growth, but it is certain that this does not contribute to increased productiveness, the tree frequently remaining unproductive until the balance between the head and roots is restored. Whatever may be the result of the Peach producing its fruit on spurs, I am led to think highly of the Apricot stock for the Peach, though it is of another genus; whereas the Plum is perhaps only another species of the same genus as the Apricot. I am also certain that the Apricot would do better on a stock of another genus if one could be found that would act in the same beneficial manner as the quince for the Pear.

I have already alluded to the fact that grafting in itself directly checks the growth and vigour of a tree. This is strikingly apparent with seedling trees, which, when allowed to grow at their free will, require a lengthened period before they arrive at a flowering or fruiting state. I find them flower sooner even when a scion is worked on its own stock annually, repeating the operation on the last-budded or grafted part with a scion or bud from that inserted in the previous year, and this continued will bring the most refractory seedling into a flowering and fruiting state; and the object in view is obtained sooner by grafting or budding on a stock of slower growth. Thus, seedling Roses bloom the third or fourth year when budded on the Dog Rose, but not until the fifth or sixth year when budded on their own stock, or on a stock improved by cultivation. A knowledge of these peculiarities suggests to us that many trees valuable on account of their flowers or fruit, but which are shy in producing these, might be so far changed, by grafting or budding successively twice or thrice, or oftener, as to produce their flowers and fruit abundantly.

I have often thought it something strange to see a Pear on the Pear stock strong and healthy, but devoid, for the most part, of fruit, though covering many square yards of wall; whilst a very small tree, not one-twentieth the size, gave double the quantity of fruit, in an open border, close by, on the quince stock. The Easter Beurré, Beurré de Rance, Beurré Bosc, Gansel's Bergamot, Gansel's Late, Broom Park, Aston Town, Marie Louise, Eyewood, and other Pears, are all too vigorous to fruit on the quince profusely, but they are most prolific when double-worked on it.

Whilst the repetition of grafting or budding conduces to the early production of blossoms and fruit, the stock in the first instance having a tendency to increase the specific gravity of the sap impelled into the scion, and the grafting hindering or

restraining the downward flow of the elaborated juice, and rendering the sap twice as rich as it would be naturally, still we find productiveness and early bearing soonest attained by working on a stock of another genus less closely allied than the quince to the Pear, as, for instance, the Pear on the Hawthorn. This, truly, is grafting on a stock of less and slower growth than the scion, and yet it is attended with the best results as regards the early production of blossoms and fruit. I think many kinds of Pears that grow too vigorously on the quince, or so much so as to require biennial removal, might be so far restrained in growth by double or treble working as to bear annually without removal. Though the quince is an admirable stock for Pears generally, it restrains the growth of some so much as to render them unhealthy. Thompson's, even, when double-worked, is not healthy on the quince; Knight's Monarch (one of the very finest of Pears, of peculiar flavour), is neither healthy nor fruitful on it; nor are the Seckle and Ne Plus Meuris at all benefited by working on the quince. They probably require a stock of slower—certainly one of corresponding growth.

I would observe, further, in relation to working on stocks of slower or less growth than the species or variety to be increased, that the fruit produced is not only larger, but higher-coloured, and of better flavour. This is strikingly apparent, in addition to the examples already named, in Digbarreau and Heart Cherries on the common Cherry stock. On stocks of their own kind from the stone they are not nearly so productive, nor so fine either in size or flavour. Dukes and Morellos on the Cherry stock are extremely small, but remarkably improved in flavour on the Mahaleb. With regard to the healthiness of Cherries on stocks of either slower or inferior growth, we know that working on such has a tendency to induce gum, but not of so virulent a nature as in the case of the Apricot on the Plum. No one will doubt, that the further we remove anything from its own natural course the more susceptible it will be of disease; at the same time we cannot but see that budding or grafting on a stock of another genus or species, nearly enough allied to maintain productiveness, and the existence of the tree for an average lifetime, does away with large annual growths and planting an orchard for another generation; and that by this practice the largest produce, of the finest quality, is obtained in the shortest time.

It has been suggested that, by working trees below the surface, the evils of grafting on a stock of another genus, species, or variety of slower or less growth, would be obviated by having the tree on its own roots. Now, this is something very absurd. If the soil is suitable for that particular variety, well, even then a stock is of no use; for, whilst planting, we might as well plant a tree on its own roots in the first instance. If the soil is the reverse of natural to the plant, then common sense would tell us to allow no roots except that of the stock to find their way into it. If we could give every tree the soil and climate natural to it, then we might safely adhere to the fact that every tree is best nourished by its own roots, and grow them on their own stock, approximating as nearly as possible to a natural state of things. Notwithstanding, seedlings of even herbaceous plants are finer when continued by cuttings—less vigorous as a plant, but having finer flowers, or it may be fruit. In like manner the seedling Pear, Apple, Plum, Peach, &c., are seldom so fine on the original as on a stock of another genus, species, or variety; and all this goes to show that grafting or budding on stocks of slower and less growth furnishes food that becomes richer in the scion, tends to productiveness and quality, but renders the subject more liable to—may, induces—disease, resulting in early maturity and death.—G. ABBEY.

(To be continued.)

#### DICKSON'S EARLY PEA, FIRST AND BEST.

IN Messrs. A. Henderson's report on Early Peas, in No. 221 of your Journal, they make a statement to the effect that Dickson's First and Best and Sangster's No. 1 Peas are identical in all respects excepting a slight difference in the colour of the flowers. That statement is so contrary to my experience of those kinds this season, that I am tempted to send you the following as the result with me.

Both kinds were sown in boxes on the same date (first week in March), placed in heat until they came up, then hardened off, and finally planted out in rows, across a south border, on the 29th of March. Dickson's was gathered from on the 1st of June in good condition. Sangster's No. 1 not until the 13th,



and then not in so good condition as the former was on the 1st. Dickson's was also a fortnight earlier in coming into bloom, and did not grow so high as Sangster's by a foot.

I consider Dickson's First and Best Pea an excellent early variety, being a good cropper, bearing good-sized, well-filled pods, and one from which several gatherings can be made.

I am not in a position to speak of its qualities as an early Pea, as compared with some of the other early kinds, such as Carter's First Crop, Dillstone's Early Prolific, &c., not having grown those varieties. Probably some of them are as early, or perhaps earlier, and another season I may test them.

Dickson's First and Best is decidedly the best early Pea I have yet grown, and I consider Sangster's a good variety to succeed it when sown at the same time.—J. H. Mason, *Stourton Castle Gardens, Staffordshire*.

## THE POTATO SCAB—YOUNG POTATOES SPROUTING.

I SHALL feel glad if you can give me any information respecting Potatoes being scabby. I have, growing in a garden, Rivers's Royal Ashlent Kidney, which are splendid croppers, and now quite ripe, also Daintree's Seedling, which are the size of a Walnut, but so scabby that a few that I took up for trial had to be peeled. White Kemps are similar. The Kidneys are not so much scabbed; but I am afraid the scab coming on the Daintree's and Kemp's whilst they are so young will prevent their attaining their full growth.

I have also some Lapstone Kidneys which are now in flower. I found, when looking at them to-day, that the young tubers are growing, one I found with a sprout above an inch long, and roots starting from the base of it. Can you give any reason for their doing so? Perhaps it is a peculiarity of the Lapstone, as I have found none of the others doing so.—J. W.

[The origin of the scab in the Potato is undetermined. It is merely an eruption, confined almost entirely to the skin of the tubers, and, probably, is occasioned by lime, or some other ingredient in the soil which causes decomposition in the tissue of the Potato's skin. Soils manured with coal ashes have been observed particularly liable to cause the scab in the tubers. We shall be obliged by any of our readers sending us the results of their experience relative to this disease.]

The cause of the young tubers sprouting is more easily accounted for. When checked in growth and prematurely ripened by long-continued drought, when rain occurs they vegetate instead of increasing in size. They usually emit fresh runners, and produce on them fresh tubers, which has been called super-tuberation.—Eds.]

## ROYAL HORTICULTURAL SOCIETY.

JULY 11.

SCIENTIFIC MEETING.—W. Wilson Saunders, Esq., in the chair. The Rev. Joshua Dix, after reading the list of the awards of the Floral Committee, and briefly commenting on some of the objects for which they were given, called attention to the Pelargoniums and other bedding plants at Chiswick, and particularly those of Mr. Bull: and the collection of Larkspurs and Poppies, he said, would also well repay a visit. Mr. G. F. Wilson, F.R.S., stated that no certificates had been awarded by the Fruit Committee; but mentioned the fruit of *Dion edule* from Mr. Taylor, gardener to J. Yates, Esq., of Highgate, Messrs. Cathush's Raspberry, and a new Pea from Mr. Graham of Cranford.

The Rev. Mr. Berkeley said, that before remarking on the objects before the Meeting he wished to draw attention to a pamphlet by M. Bonchet, of Montpellier, giving an account of the results of experiments in crossing Vines, and the substance of which had appeared in the "Comptes Rendus" of the Academy of Sciences. With one Vine in particular, *Le Teinturier*, which was used for colouring wine, some difficulty had been experienced in crossing, on account of its flowering eight or ten days earlier than the kinds which were employed as the female parents; but this difficulty having been overcome, several varieties had been the result, some of which had colourless, others coloured juice like the male parent; and some were so early that it would be possible to have the vintage in the South of France in August. It had been doubted whether cross-breeding affected the character of the fruit or seed of a plant the same year; but Mr. Standish, who had made numerous curious experiments in cross-breeding Vines and other plants, had informed him (Mr. Berkeley), that he had noticed a change of form in Grapes which had been crossed in the first year; and Mr. Standish had promised to give the Society some observations on this point. Mr. Berkeley then read a

letter from Mr. F. P. Moore, enclosing two leaves of Vines which had been raised from the seeds of Malaga raisins purchased seven or eight years ago for making wine. The raisins had been boiled, the juice pressed out, and the residue thrown on the garden, and in a short time hundreds of young Vines had come up, some of which were now 4 feet high. In reference to this, Mr. Berkeley remarked that the same thing had happened to himself, with this difference—that the marc had not been boiled for some hours, but treated with boiling water, and from the refuse thousands of plants had come up. Mr. Berkeley then proceeded to review the plants, &c., exhibited. A double variety of *Geranium sylvaticum* was said to be an ornamental plant for shrubberies; and General Grant Pelargonium, from Mr. Reid of Sydenham, to be a cross between a zonate variety and some Cape species, and therefore never likely to be useful for bedding. Elizabeth Vigneron Rose, from Mr. W. Paul, was described as a most exquisite variety, and even finer than its parent Louise Peyronny. Of *Podophyllum Emodi* an account would be given by Mr. Short, who had succeeded in making the plant produce fruit. There was also a species, the May Apple, *P. peltatum*, cultivated in America, where it was known as the Wild Lemon on account of the fruit being acid. The leaves were said to be poisonous, but the plant possessed valuable medicinal properties, the rhizome being much used in America in the shape of a powder for fevers and affections of the liver. In reference to the Castle Kennedy Fig he had omitted to remark at a former meeting that he believed that a great many valuable fruits that were probably unknown in this country might be found in old gardens in Scotland; for in former days the intercourse between Scotland and France and Flanders, was closer than between these countries and England. In confirmation of this, Mr. Berkeley observed that when at the Marquis of Huntley's in Aberdeenshire, he had noticed magnificent Gran Cherry trees scattered over the country, and which had probably been imported from France, as they were certainly not indigenous. They attained the size of Oaks, and had a very picturesque appearance. A large Puff Ball which had been exhibited at one of the shows was stated to be *Lycoperdon bovista*, and remarked Mr. Berkeley, though almost every one seemed prejudiced against *Fengii*, some of them had curious properties. This one for instance was excellent for taking bees, had powerful anæsthetic properties, and when young the flesh looked like bread, and was most excellent when properly dressed, being more tender than any sweetbread. In Italy, where it grows abundantly, it was kept in a cellar and a slice cut off when wanted, but here it soon changed colour, and when it had an unpleasant smell it became unfit for human food.

Mr. Short, having been called upon to give an account of his mode of cultivating *Podophyllum Emodi*, said that it was by no means a new plant, but he believed that he now exhibited it for the first time in fruit. He had turned his attention to its cultivation for the last ten years, and no plant that he knew was so impatient of removal and disturbance as it; if only a small piece were separated, the plant would be three or four years before it arrived at the same stage again. The flower to a casual observer appeared like that of the Black Hellicone, but was more like that of one of the Nymphæaceæ; the plant, however, belonged to an order of its own—*Podophyllaceæ*. It did not remain in flower more than two days, and if the flower were not impregnated within the first few hours all chance of fruit was hopeless. Having removed some seedlings he found that some of them had only two thread-like roots 2 or 3 yards long. The plant was difficult to propagate—the best way to grow it was to let it alone. He thought that the fruit would be either intensely acid or intensely bitter. The Rev. Mr. Berkeley having tasted the fruit declared it to be not at all acid, but insipid, and not particularly nice.

Mr. Wilson Saunders begged to direct attention to what some of his friends called ugly-looking plants. They were the next relatives to Figs, and were called *Dorstenias* after Dorsten, and through them the fructification of a Fig could be better explained than by the Fig itself. Every one knew what is commonly termed the Fig, but that was not really the fruit, but merely a hollow fleshy receptacle bearing the true fruit on its inner surface in the shape of numerous small seeds. Taking one of the *Dorstenias* it would be found to possess a square flat receptacle set with numerous insignificant green flowers, each of which became a fruit. Now a Fig was nothing more than this rolled into a bag or turned outside in, with an aperture at top through which the air passes, and causes the pollen to fall on the stigma. The *Dorstenias* had been long in the country, but had not received the attention which they deserved. The forms which the receptacle assumed in some of the species were very curious, as would be perceived by the examples which he had brought. One species was said to possess very active properties as an antidote to the poison of snakes, but the principle, whatever it was, ceased to be active in the dried state of the plant. Passing from the *Dorstenias*, Mr. Saunders differed from Mr. Berkeley as to crosses of the Cape *Geraniums* being too tender to be used for bedding. Some of the Cape species there were that would only do in a greenhouse, but there were others, particularly the hard-wooded kinds, that in hot seasons like the present might be expected to stand out of doors when the temperature was not under 40°. Mr. Saunders then adverted to the important influence of ground temperature on the growth of plants taken in conjunction with the heat of the atmosphere, the latter being too frequently considered without any reference to the former. A *Brassavola* sent home by the



Society's collector Mr. Weir was then noticed, and Mr. Saunders stated that it did not differ much from *B. nodosa*; and in commending the charming *Bignonias* from Mr. Fleming to the notice of the meeting, Mr. Saunders strongly recommended them for covering the roofs of greenhouses and conservatories. To flower well, however, the plants should be old, and have plenty of room.

**FLORAL COMMITTEE.**—The entries were not very numerous, although several very interesting plants were brought before the Committee. Mr. Fleming, Cliveden, exhibited some of his seedling *Nosegay* and *Zonale Pelargoniums*, which were of a very promising character. *Nosegay* Dowager Duchess of Sutherland, having a fine large truss of deep carmine flowers, very distinct and beautiful, had a first-class certificate; also *Nosegay* Lady Constance, brilliant scarlet, large showy truss, leaves deeply zoned. Mr. Fleming also brought cut specimens of several other seedlings of good quality and new in colour. Mr. Stone, gardener to J. Day, Esq., brought several *Oreohids*, among which were a fine specimen of *Cypripedium Stonei*, with three flowers in perfection, for which a special certificate was awarded; and *Eriopsis rotundobulbon*, a very beautiful *Oreohid*, with spikes of brown flowers, with a delicately-marked light rosy-nottled lip. A first-class certificate was awarded for this; and *Bolbophyllum psittacoglossum* had one of the second-class. *Phalenopsis Wightii*, a very small-flowering species, very unlike some of its magnificent relatives, was also shown by Mr. Stone. Messrs. Osborn, of Fulham, exhibited a plant of *Podophyllum Emodi*, which had never fruited in England before; the flowers are produced singly, resembling those of *Helleborus viridis*, and the fruit resembles that of the common Passion-Flower in form and colour. It is a hardy plant, difficult of cultivation, and when once planted should not be removed. *Geranium sylvaticum* duplex, from the same firm, is a useful and ornamental plant, growing where few other plants will succeed—under the shade of trees; the flowers were too much faded to judge of its merits. Mr. Bull sent a plant of *Stauranthera grandiflora*; *Phegopteris sancta*, a small and pretty stove Fern—second-class certificate; *Lobelia Silver Queen*, which was very similar to *Lobelia speciosa alba*; *Pandanus ornatus*, requested to be seen again; *Dicksonia cinnamomea*, a fine tree Fern, the stems clothed with a rusty brown wool-like substance—first-class certificate; *Cissus amazonica*, not nearly so good as *C. discolor*; *Costus zebrinus*; *Aspidium* sp., a stove Fern; and cut specimens of a striped *Verbena* *Gem*, the colours not distinct, and spoiled by the green centre. Mr. Thompson, Ipswich, exhibited a very pretty greenhouse perennial, *Trichium Manglesii*, with tufts of purple flowers, growing on feather-like footstalks, which give the plant an elegant appearance. It was much admired, and will, doubtless, become quite a lady's plant, and be in great request. It is nearly allied to the *Amaranthus* and *Celosias*. This received a first-class certificate. From Mr. Williams, Holloway, came *Gleichenia* sp., probably a glaucous variety of *G. macrophylla*—first-class certificate; *Gymnogramma* sp., to be seen again, as it much resembles *G. Parsonsia*; *Anacochilus Turneri*, a very fine form of this genus—first-class certificate; *Lilium* sp. from Japan, the yellow-spotted variety, exhibited before, and a small collection of *Lilium auratum*. Mr. Wilson Saunders sent a collection of very curious plants—nine distinct varieties of *Dorstenia*, with varied and singular form of inflorescence. A special certificate was awarded for them; also a special certificate for the general collection. Mr. Reid, Sydenham, exhibited a seedling *Pelargonium* of the *Nosegay* section, General Grant, hybridised with a Cape variety; the plant produced a truss of bright red flowers, and the foliage, instead of being circular, was much lobed, and without any zone. Messrs. Downie, Laird, & Laing had, for a collection of cut Hollyhocks, a special certificate. Mr. Ansell, Kentish Town, exhibited a collection of cut *Antirrhinums*, the usual varieties which are produced from packets of seed which may be purchased anywhere; and Mr. Smith, Hornsey Road, a seedling *Zonale Pelargonium* Mrs. Box, pale salmon and white flowers, of which we have already too many. Mr. Brown, Sudbury, sent specimens of his new scarlet Sweet Pea, called *Invincible Scarlet*, advertised by him in the spring. This is a very fine and distinct variety, really worth growing; colour deep scarlet, blended with carmine, flowers large, and very highly scented. It received a first-class certificate. Mr. Wm. Paul sent specimens of new Hybrid Perpetual Roses Dr. Lindley, Elizabeth Vigeron, Madame Emile Boyan; and Mr. Fleming, cut specimens of two superb *Bignonias*, *B. grandiflora* and *B. chirera*. The plants were growing in a conservatory at Cliveden, forming extremely ornamental specimens. Mr. Eyles placed before the Committee an *Orchid* sent home by Mr. Weir, a variety of *Brassavola nodosa*, to be called *B. nodosa grandiflora*. There appeared to be two distinct varieties on the stump on which the plants were growing and were sent home. A first-class certificate was awarded. A collection of Sweet Peas was sent from the gardens, many good and distinct varieties, but not one equal to the *Invincible Scarlet*, which is a great acquisition to its family.

**FRUIT COMMITTEE.** Mr. G. F. Wilson, F.R.S., in the chair.—Mr. Cutbush, of Highgate, again brought forward his seedling Raspberry Princess Alice, a late variety, which was then just coming into use. The flavour is more brisk than in the Prince of Wales, fruit of which was shown along with it. Mr. Fleming, of Cliveden, brought a bunch of a seedling muscat-flavoured Grape, raised from a cross between White Frontignan and Royal Muscadine. The bunch was of good size long, and well set; the berries as large as those of the White

Frontignan, and the flavour was decidedly good, notwithstanding the fruit was far from being ripe. Mr. Bradley, of Elton Manor Gardens, sent a seedling Strawberry named "Dr. Hogg," a fine handsome fruit, in the way of British Queen, but highly coloured, and giving indication of being a highly-flavoured and excellent variety; but the fruit had suffered so much by carriage that the flavour was damaged, and Mr. Bradley was asked to send it again. Mr. Myatt, of Deptford, brought samples of early Potatoes—viz., Myatt's Prolifer, Milky White, and Mona's Pride. Of these Mr. Myatt gave the preference to Mona's Pride, as being the best early Potato he has met with in his experience.

**SHOW OF LILLACEÆ, July 15th.**—This was chiefly confined to the different varieties of *Lilium lancifolium*, of which some well-grown beautifully-flowered specimens were shown by Messrs. Cutbush and Young, of Highgate. We noticed the names of *speciosum*, *rubrum*, *rosatum*, *craenum*, and *album*, which were the only lance-leaved kinds shown on this occasion. Others consisted of *Lilium auratum*, among which was a pretty variety with reddish bands from Messrs. E. G. Henderson. This was named *rubescens*. The others came from Messrs. Bartlett, Cutbush, Bull, Young, and Cutbush. The only other *Lilies* shown were the *Tiger*, *longiflorum*, and *martagon*, of which there was a pretty dark variety under the name of *umbellatum*. *Vallota purpurea* and *Amaryllis aulica ignescens* came from Messrs. E. G. Henderson; and *Vallota eximia* from Mr. Bull. Miscellaneous subjects consisted of six stands of Hollyhocks from Messrs. Downie, Laird, & Laing, together with a spike of a delicate pink seedling, called Mrs. Laing. Roses came from Mr. Clarke, of Brixton; hanging baskets, *Achimenes*, and variegated-leaved *Begonias* from Mr. Young; Cockcombs from Mr. Taylor, gardener to J. Yates, Esq., Highgate; and a beautiful plant of *Adiantum emicatum* from Mr. Bartlett. Cones of *Pinus excelsa* were contributed by Mr. Carson, gardener to W. F. G. Farmer, Esq., Nonsuch Park, Cheam; and Figs and a Queen Pine Apple by Mr. Ford, gardener to W. Hubbard, Esq., Horsham.

## THE UNITED HORTICULTURAL SOCIETY.

THIS Society again held a show in the garden of Finsbury Circus on Wednesday the 12th inst., and as a whole for the season there was a good display. The centre of the principal tent was devoted to flowering and ornamental-foliaged plants, tree Ferns being placed along the centre and two fine *Draecenas* from Mr. Williams one at each end. Of Heaths some excellent specimens were exhibited by Mr. Rhodes, who has been very successful with them at different exhibitions this year; and other plants from Messrs. Page, Rhodes, Fraser, Williams, Wheeler of Stamford Hill, and Chilman, consisted of *Ixoras*, *Dipladenia splendens*, *Lescheaulia formosa*, *Cyrtoceras reflexum*, *Staticee*, *Pleroma elegans*, *Tillandsia splendens*, *Sollya linearis*, *Kolosanthes*, *Fuchsias*, and scarlet and variegated *Pelargoniums*.

Fine-foliaged plants comprised *Dicksonias* and other *Ferns*, *Draecenas*, *Caladiums*, *Maranta zebrina*, and *Warewiczii*, a few *Palms*, a variegated *Ananassa* in fruit, and a collection of *Cannas*; the exhibitors being Mr. Williams, Messrs. Low, Mr. Wheeler, Mr. Wilson, gardener to W. Marshall Esq.

Some good *Oreohids* from Messrs. Wilson, Page, and Baker, occupied a small tent by themselves, along with a collection of hardy Ferns from Mr. Holland, gardener to R. Peake, Esq., Isleworth. We noticed good examples of *Cypripedium barbatum*, and *superbum*, *Angulosa Clowesii* in good bloom, *Phalenopsis*, *Vandas*, *Acridas*, *Cattleyas* *Leopoldi* and *superba*, *Oncidium Lanceanum*, and the brilliant *Disa grandiflora*.

Of other plants *tricolor-leaved* and other bedding *Geraniums* came from Mr. Aldred, Kilburn, Messrs. Smith of Dulwich, Buxton, Wandsworth Road, and Williams of Holloway; the last named having among others *Annie Williams* and *Golden Nugget*, two pleasing varieties. Mr. Smith of Tollington Nursery sent *Zonale Pelargoniums* *Chieftain*, and *La Grande*, both of which have been certificated by the Floral Committee and described at p. 9; likewise *Petunias*, and *Fuchsias*. *Lilium auratum* was shown in good bloom by Messrs. Carter & Co. and Mr. Williams, who had also the beautiful *Todea superba*; *Anacochilus*, by Mr. Aldred; *Balsams*, by Messrs. F. & A. Smith; *Aurea floribunda Calceolarias* in excellent bloom, by Mr. Forsyth of Stoke Newington; dwarf *Tropaeolums* for bedding, by Mr. George; and seedling Sweet Williams by Mr. Wiltshire.

Foremost among cut flowers were twelve boxes of beautiful Roses from Messrs. Paul & Son; and six from Mr. Turner of Slough, who also had large and beautiful *Carnation* and *Picotee* blooms. Mr. Holland likewise contributed good boxes of Roses. From Messrs. Paul & Son, and Messrs. Downie & Co., came excellent stands of Hollyhocks; *Verbenas* and *Roses*, from Mr. Vockins; and cut *Fuchsias* from Mr. Crute.

Fruit consisted of Peaches, Nectarines, and Strawberries from Mr. Tillery, Welbeck, and Mr. Young, gardener to W. Stone Esq., who also had two Pines; some excellent Currants and Gooseberries, from Mr. Newton, gardener to G. J. Graham Esq., Enfield Chase, and Mr. Mortimore, gardener to W. Pott, Esq., Carshalton, who also sent a good Queen Pine and two Melons; Black Hamburgh Grapes from Mr. Lewis, Stamford Hill; and fruit trees in pots from Messrs. Lane.



Some good Cnemebers were shown, also herbaceous plants from Ballymonough, Ireland; and we noticed a pretty Cape Heath, called *Exquisita*, exhibited by Messrs. Low.

### TODMORDEN BOTANICAL SOCIETY.—JULY 3RD.

DR. W. P. H. SCHIMPER, G. et M. Pr., Ac. Sc. J. G. M. C., &c., "Bryolog. Enrop. Auctor." was admitted an associate member. In proposing the above-named gentleman the Chairman took occasion to pay a high compliment to the character and abilities of Dr. Schimper, remarking that he had a world-wide and also a well-earned reputation, and that the Todmorden Botanical Society, in conferring an associate-membership on such an individual received a far greater honour than it conferred. We noticed on the table a plant of a splendidly ramiflose var. of *Polystichum aculeatum*. We understood the plant in question, along with some twenty others equally characteristic, had been collected in Devonshire within the last few days by Mrs. Thornton, of Holdsworth rectory, North Devon, and lately of Rawtenstall, Rossendale. Mr. H. Halstead contributed a friend of a new *Athyrium*, with curiously-ovate pinnules, and which, if quite permanent, promises to be a valuable acquisition. The plant in question had been gathered near to Castle-Carr, in Yorkshire: several very rare and curious plants and flowers were sent from other sources. The Hon. Sec. read a communication from Mr. Fielden Hartley, Alton, Illinois, N.A., reporting the discovery of *Botrychium virginicum* and other rare plants, and enclosing a fine specimen of the one first-named.

The Vice-President (Mr. Nowell) having accompanied Drs. Schimper and Wood to Snowden, reported the discovery of the following rarities, none of which had ever before been seen in a growing state by the celebrated Schimper: *Aretoea fulvella*, finely in fruit; *Edipodium Griffithianum*, splendidly in fruit; *Racomitrium ellipticum*, do; *Bartramia arcuata*, this is altogether unknown on the continent; *Andraea alpina*, abundantly in fruit.

### WORKING-CLASS FLOWER SHOWS.

WE visited, during the past week, one of these in Bloomsbury Square, and another in the Royal Horticultural Society's Garden at South Kensington, and well gratified were we to find the competitors so numerous. Great excellence is not to be expected, but there were many specimens very creditable to the growers, and evidence unmistakeable of an increasing fondness and seeking after these beautiful adornments of a house.

The Earl of Shaftesbury, who distributed the prizes at the Bloomsbury Show—and let us add that the Bloomsbury window gardeners keep ahead in this race which they originated—observed that he was glad that the movement, originating as it did in Bloomsbury, and so well carried out by the Rev. E. Bayley assisted by Mr. Bosanquet and others, had now spread all over London. He thought, also, they ought not to forget the inventor of the movement, the Rev. H. Parkes. He held that a man who invented a movement like that, which was accomplishing so vast an amount of moral good, was a benefactor of the age. He went much about the town, and he saw the good effect of such shows amongst the people. The Bloomsbury folk ought to be very proud of originating a movement which was spreading all over London. He had three flower shows to attend that week; last year there were not above two such flower shows in the metropolis, this year there were twenty or thirty, and next year he hoped there would be a hundred.

There are a few minor points about these exhibitions which deserve alteration. We think, for instance, that a little more regard should be had to neatness; and if two plants showed equal good cultivation, and one was exhibited in a pot rendered inoffensive to the eye by being enclosed in a piece of crenulated green paper, we would give its opponent in a bare stained pot the second place in the award.

Labels or patches of white paper, even if all of a size and well-written upon, we would banish from the sides of the pots.

Then we would have distinct prizes for trellised plants and plants untrellised. A *Fuchsia*, we think, looks best trained as a pyramid rather than as a fan. A *Geranium* we consider more difficult than a *Fuchsia* to grow meritoriously. Lastly, a plant taken out of a border or a large pot, cut down, and then grown in a small pot in a window for next year's exhibition, is not "a plant raised and flowered within twelve months." A plant to come within this definition should be raised from the cutting in one year and exhibited before the close of the next.

These concluding notes are in answer to some queries we have received.

### BROMUS SCHRÖDERI—ZIZANIA AQUATICA.

I SEE that Messrs. Carter advertise this Grass amongst their novelties, and give a glowing description of it in the advertising columns of your Number of April 11th. I have known and had it for some time, but never sowed any till this spring. Having just returned from London, I am glad to find a fine bunch of it about a yard high and in full ear. It was sown long after the general corn crop, so that Messrs. Carters' remark as to its peculiarity in sending up seed at a very early stage of its growth seems to be correct. Probably, if I had been at home and pushed it on with liquid manure during the late unprecedented hot weather, it might have been higher, but "the Derby," and such like, must be seen—"ruat cælum."

Being a member of Council of the Acclimatisation Society, I have devoted much time and attention towards introducing such hardy shrubs and Grasses as will afford food for game; and my respected friends, P. Lawson & Son of Edinburgh, who in the kindest manner always send me anything they meet with tending to that object, forwarded me, some time ago, a spike of this *Brome Grass*. I distributed it among a few members of our Society, and a fine head of it was shown at the council meeting last Thursday. I believe Messrs. Lawson had it long since from Berlin, but I think it is a native of Virginia. There is no doubt it will be excellent food for game or poultry, but I doubt its perennial character, as well as its hardness, as it grows so fast.

Respecting the *Zizania aquatica*, or Wild Rice of Canada, with the re-introduction of which my name has been so much coupled, I am sorry to state that we have utterly failed in raising it. Mr. Thomas Moore of Chelsea and I have tried it all ends up without getting it to show the least vitality. I have gallons of it left, but it is no good giving it to any one. We are going to try to get young plants of it over.—JACKSON GILLBANKS, Cumberland.

### THE KITCHEN GARDEN.

MARCH.

THIS, the busiest month of the twelve in the kitchen garden, must be made the best use of if the weather is at all propitious: but in the last season or two, owing to the inclemency of the weather, it has been impossible to keep to any method as to time of sowing, &c.; but on the proper use of any opportunities occurring during the month, will, in a great measure, depend the vegetable supply for summer, autumn, and winter.

The first day the ground is in a proper state for sowing, which may be ascertained by its crumbling beneath the tread, the main crop of Onions should be sown in drills 9 inches apart, the earth being well trodden and neatly raked after sowing. I lay great stress on getting them in as early as possible in the month, as they will be fit for drawing young sooner, and the main crop will be superior in every respect to those later sown, with the additional advantage of being ready to be taken off earlier in the season, thus leaving the ground at liberty for Winter Spinach, Cabbage, &c. Mine were sown this year on the 3rd of March, after which time, if I remember aright, we had some rather severe weather, and they are now looking first-rate, owing, I believe, in a great measure to their having had a good start before the dry weather set in.

The Cauliflowers, too, should receive immediate attention. Presuming that the trenches are thrown out between the Peas for Celery, these can be used for the reception of the surplus stock from the hand-lights, which will be off by the time the trenches are wanted for Celery. As regards those that are to remain under the hand-lights, of course, selecting the most forward, they should be watered, earthed-up, and the lights raised by placing bricks under them, but by no means coddle the plants too much, or they will ultimately assume too much the appearance of a flower. Next to the Cauliflowers, the Asparagus-beds should receive attention. I generally cover mine all over with about 6 inches of manure the first frosty day in the autumn or winter, and let it remain on till this month when the littery portion is forked off and the rotten part is merely loosened with a fork, digging the alleys to make all look neat and clean; but I never earth it up any more than I have now stated.

The main crop of Carrots and Beet should now be sown in the same way as advised for Onions, but before sowing be sure to make up your mind what crop is to follow; by so doing you will be better able to determine how much ground you



can spare for each crop, and prevent much confusion afterwards. It will be as well to sow a very small bed of Early Horn Carrots for summer use, as they often stop a gap, especially in such dry summers as it appears we are doomed to have. In fact, there are so many things to sow this month that it is no easy task to enumerate them all with remarks; but as one generally has to give up a frame or pit to half-hardy annuals, a part of it can be devoted to sowings of Brussels Sprouts, Broccoli, Lettuce, and Celery, not forgetting to prick the first sowing out as soon as large enough to handle, and again place somewhere under glass. Where Dwarf Kidney Beans are grown under glass now is the time to work them, as with ordinary attention they will repay the labour and come in now very useful. Besides these the supply will be much the same as last month, with the addition of the thinnings of the autumn-planted Cabbages, as I generally plant them so thickly in the rows that I am able to cut at every other one for greens, and the Radishes from the pit will make a nice addition to the salad for the month, with Cucumbers if you have them.

In this month I sow two rows each of Yorkshire Hero and Veitch's Perfection Peas, sowing Radishes between the rows and rolling all over to protect the seeds from the birds, after which I sow no more long Radishes but rely chiefly on Turnip Radishes, of which I make sowing before the month is out. In addition to the above, sowings should be made of Vegetable Marrows, Tomatoes, Leeks, spring or summer Spinach, Turnips, and herbs. Plant Potatoes, and gravel the walks if necessary.—

BURNTWOOD, P. D.

(To be continued.)

### MY ORCHARD-HOUSE ON MIDSUMMER DAY.

THE late dry weather severely taxed our tanks. Getting-in the luxuriant hay crop, and watering the flower-beds, prevented due attention to our Strawberry-beds and Peaches in-doors and out. Out of doors I never saw them so spidered; anything more abnormal than the leaves one could not conceive; also, mildew on the young shoots, and remains of spring-blistered leaves. All this arose from neglect of syringing and applications, but it was out of our power. Guernsey is the land of monopoly, close borough, and dissent! Thus, at times there is much inconvenience in the labour market. The clergy, if not actually reduced to "drive cabs," must work their garden engines themselves if they wish to conquer the aphid tribe. In-doors, little spider, less mildew, but a great amount of brown aphid. If overlooked for a day the leaves curl up and defy all syringing. After many applications which injured the tender leaves, I decided on the "very close pruning" off of the diseased shoots, but there is little danger, for the buds for next year's crop are now plainly prominent and abundance of "May clusters" are visible, only in the case of an extension of a branch it is very trying to see it curled up and crooked. However, they are all cut off, being second growths.

Mr. Rivers presented me last year with about three dozen new trees, many unnamed seedlings. These with other new sorts make up about one hundred splendid varieties, and, I believe, my good friend alone could show choicer sorts. The interest created by watching them, noting their blossoms, habit of growth, and fruit, as yet unnamed, is unbounded. Among newer sorts Alexina Chaupin is a remarkably dark Peach, darker than any Bellegarde. The shoots are of a dark purple. Heath's Northern Tree, an American Peach, is very prolific, and seems good. Bergen's Yellow, said to be a shy bearer, is doing well. Then there are a number of seedlings all to be tried. Of the Victoria Nectarine I have two trees both bearing. The fruit is the largest Nectarine in the house after Chauvière. The Princess of Wales Peach is truly fine. Another unnamed seedling white Nectarine will be first-rate. Of older sorts, Early York is still a very great favourite; so are the American varieties, Canary, Stump the World, and Golden Purple, all free-setting and good. No Peach is more prolific than Stump the World. Tecumseh, a new Georgian Peach, said to be very late, has also fruit. Pool's Late Yellow is finer this year. The Comet Peach is promising well.

My Apricots have not done much this year; why, I cannot say. Neither have they succeeded in a friend's house who has wonderful Plums, and such Apples and Pears!

My Figs I have removed from pots and planted against the wall inside the house. They require too much attention to watering.—any neglect and the crop is in danger; but trained *en cordon*, as diagonals, and closely, very closely indeed, pinched-

in, they make a goodly show. Some are nearly ripe, others of the size of a Pea, and many between these sizes. Let me recommend close pinching-in for Fig trees. We are coming to this style for everything.

As to the general crop, it is about 1500, as last year, besides plenty of Grapes along the rafters; but we are fatally crowded owing to my good friend's liberality, and as this is a common fault with beginners, let me say here how dangerous it is. The shifts we are put to to save room, the way we turn the plants to the light, the accidents from crinoline, the injurious comments of our many visitors, irritating to a degree to our self-respect, and the consciousness that our best trees are becoming fast out of proportions, all these and other good reasons induce me to recommend amateurs to construct their houses with a good width, and plenty of ventilation and means of irrigation. On the subject of visitors and their remarks, some curious chapters might, indeed, be written.—T. C. BRÉNAUT, *Richmond House, Guernsey*.

### IDIOD GARDENERS.

A STRANGE title!—yet fully justified by the truths leading to its adoption.

Who has not known a family with an idiot member?—sometimes an idiot filthy in its habits; resolute not to use muscular exertion; drivelling sometimes; sometimes uncontrollably violent; voracious in appetite, and careless of the quality of food partaken; without discernment of good from evil, and in fact loathsome, and a total sorrow, and an incubus upon the family?

We have known many such—nay, more, we have known a family with all the children idiots—and we, in common with the parents, and, probably, in common with a majority of our readers, looked upon them as incurables, and thought that Luther was not far wrong in concluding they should not be allowed to live. Yet, how totally this is at variance with the path that should be pursued, and how totally incorrect the conclusion that such imbeciles are incurables!

We ask of our readers, emphatically and urgently, to read a contribution to the just-published "Edinburgh Review," entitled "Idiot Asylums," and they will marvel to find that *all* idiots are teachable, *all* may be rendered happy and useful, and "that some actually possess special powers, above the common standard as relates to music, the art of drawing or modelling, and in powers of memory and arithmetic, and instead of dulness, imperfection, and deprivation, have in some direction or other a strange exaltation."

It is the mode of treatment—the adapting the teaching to the deficient powers of the mind, the associating with minds on a level with each other, and gradually leading each other on, that effects such a wondrous change. All the details are interesting, but we can afford space only for one extract—many trades are successfully taught—but we must confine our notice to the idiot cultivators of the soil.

"No idiot asylum should be without a farm and a garden, and if the number of pupils is large they should be of considerable extent. There are between twenty and thirty farmers and gardeners at Earlswood, while at Essex Hall the employment of pupils able to do the work assigned to them in the garden has long been found most attractive and beneficial. In the first-named place the garden consists of about 8 acres, and is admirably kept by the young gardeners under superintendence. The vegetables required in the establishment are well and abundantly grown, and in the flower borders, which are in excellent taste, it is almost impossible to find a weed. There is a greenhouse, and also there are some frames for preserving the plants to be bedded out in the summer, and every part of them has been made in the place in a workmanlike manner. Now and then at both the asylums just named, prizes have been gained for Cucumbers, Celery, and other produce, at the neighbouring horticultural shows, to the great joy and triumph of their growers. Such an occupation has a most happy influence on the imbeciles employed in it, while it secures abundance of excellent fresh vegetables and summer and winter fruits for their use, a part of their diet of great importance.

"To see the poor fellows watching their plants and trees, and in summer parading near the Peas and Currants, with their clackers to frighten the birds, is a most exhilarating spectacle when contrasted with the uselessness and wretchedness of their previous lives. The great object of ambition, however, is to be



a farmer. 'I am a farmer now,' is the proudest boast of some poor fellow promoted to that post. The attention paid to the live animals of the farm is unfailling; whatever danger of neglect keepers of cows might fear from the boys who tend them, there is none from the idiots. The cows are the special object of their regard, and when a calf comes, or a litter of pigs, they are welcomed and cared for with enthusiasm, and they will run eagerly to the house to tell of the addition to the stock; only perhaps in mistaken terms, as one boy did out of breath—'Sir, sir, the pig has calved.' All the hay of a large acreage is easily made by the idiots, only they would fail without guidance in constructing the ricks. Idiot haymakers are a joyous company, and the hay-field is a source of pleasure to those too feeble to do any work in it. Nor is this labour without profit, for the farm produce has been sold at Earlswood for more than £1,000 in one year. Some boys are trusted with milking, and nothing in the way of pleasure would keep them from this duty, to which they go just before the tea is ready. Somebody asked one of them who sat tugging at a cow's dug after all the milk seemed to have been exhausted, 'How do you know when to leave off?' 'Oh,' said he, 'when the tea-bell rings.' It is a pleasant sight to see them come in from the farm to a meal; how carefully they wash their hands, and clean their shoes, and take off their working clothes to go into the common eating-room neat and with all propriety. It would have been considered as utterly impossible to have achieved such order and decorum with pupils whose previous habits tended to the reverse, but it may be witnessed daily.

"Indeed the sight of a large company of well-trained idiots at table is most remarkable, and none are allowed to dine in the principal dining-hall, till they have achieved all the acts of feeding and sitting at their meals with due decorum. When they first come into the establishment, unless they belong to

the class who mope and are sluggish, they are as greedy and ravenous as wild beasts, seizing and bolting everything brought near them in the way of food, with a tendency, if not checked, to gorge themselves to excess. In time, however, they are brought to enter the apartment in regular order, the females arranging themselves on one side, and the males on the other. By means of apparatus for the purpose, the room being close to and upon the level with the kitchen, the dinner with the portion of each on a separate plate is served in a very short time. No one begins till all are served, when they sing under the leadership of their master, a short grace, and then commence. There is no apparent greediness, no unseemly feeding, but they form a cheerful and well-conducted company, much gratified by the notice of visitors. The dinner concludes, as it began, with another grace, and the room is quitted in a quiet and orderly manner. Some of the pay cases at Earlswood have a dining-room apart, where the meal is served as nearly as possible in the way they would have it at home, and thus when restored to their friends they are not excluded from the family dinner because of any improprieties. The preparation for dinner in the kitchen is a lively scene at Earlswood, for there are about a dozen of the pupils engaged as cooks in a subordinate capacity, and they are dressed in white with the usual caps, looking the perfection of cleanliness and neatness. They work with the greatest delight in this employment, and are very fond of it. This occupation does not interfere with the work at any trade, and it is one of those beneficial changes in the daily routine which are found so desirable. One boy has extreme pleasure in washing the plates and dishes, doing it well. So absorbed is he in this undertaking, that it is his principal thought; and when asked which he liked best, his present or former residence, he replied 'Oh, this, because there is a better sink here.'

#### POCKET FERN TROWEL.

Your fair correspondent "ALICE's" remark, in a late Number of the Journal that she found a common screwdriver a useful accessory to her botanising knapsack, has induced me to forward a sketch of a very useful form of trowel, well adapted for the removal of tenacious-rooted plants, Ferns, &c., from walls. Indeed it will be found a very useful implement wherever the common trowel might be required, by any one of our botanising friends to whom unnecessary luggage would prove a great drawback in their customary rambles.



Pocket Fern Trowel.

The pocket Fern trowel is made wholly of steel, the whole being polished, with the exception of the surface portion of the handle, which for greater ease to the hand in working, has affixed a piece of leather. With this exception the handle is identical with the blade running the whole length of the same, which gives it greater strength. The trowel is enclosed in a neat leather sheath, and the whole being only 6½ inches in length, can readily be carried in the pocket. They are manufactured by Messrs. Nunn & Son of Hertford.—WILLIAM EARLEY, *Digswell*.

#### GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 2.

We left Genoa on March 8th, passing through snow, which was lying thickly on the ground, and which gave to mountain and valley a character of almost unearthly loveliness. The road continued for the most part on the edge of a precipice overhanging the sea, from which you looked upon the fair villages, stretching as far as the eye could reach, along the sea-coast, and nestling in groves of Oranges and Lemons, with Olive-crowned hills at the back. Through all the towns we passed there were such signs of life as I had hardly hoped to see in Italy: in many places the seashore was lined with vessels in every stage of progress and completion; there seemed to be quite a swarm of men, women, and children around these ships, some working, others talking, while the little children played in and out, making labour appear a very holiday task in these beautiful regions. In several of the towns there were large potteries, the sides of the houses being stuck all over with pots and pans of clay, drying and hardening in the sun: I could fancy that the captivity of the "Sleeping Beauty" was over, and the Prince arrived at last.

We rested in the middle of the day at Ruta, a very fair type of these Cornice towns. The inn was built on a terrace, with vineyards and oliveyards in terraces sloping down to the sea. From the stone walls of these divisions I gathered *Ceterach* and *Asplenium ruta-muraria*, with *Polypodium vulgare*, in large quantities. I fancied that the *Ceterach* was more divided

than is usually the case in England, but not so much so as to make it worth while to bring away any roots. Under the Olive trees I gathered large and beautiful Violets, which I took back with me to adorn the dinner-table. Before the inn door there was an alcove with stone seats, and wooden trellis adorned with the leafless tendrils of Vines woven in and out like lace-work; sitting in the alcove were men—working men and beggars—women and children; these all gather round a new arrival, talking, and watching, and begging. The dining-room of the inn was at the head of a flight of rambling stone stairs; beyond the dining-room, opening from it, was a bedroom, and opening from the bedroom a large arbor-like room, roofed only with a trellis-work of Vines, and commanding a magnificent view of earth and sea; from the arbor you could descend by wooden steps to a garden, and such a garden!—Olives, Vines, chickens, children, flowers, and weeds all mingled together in hopeless confusion, and yet amidst all the untidiness and ruin, preserving its own wild luxuriance of beauty—a beauty that in summer and winter is alike there.

On the 9th of March we left Sestri de Levante with six horses for the ascent of the Bracco Pass, which is even more terrible in its unprotectedness than the Cornice. There is, indeed, no railway, and there is plenty of room—mountain seems piled on mountain, with every shade of colouring adorning them, up to the very heavens. The different stages of vegetation on the



Bracco is most interesting. Myrtles, Arbutus, Adiantum capillus-Veneris give place to Ericas of several beautiful kinds, Asplenium adiantum-nigrum, and Polystichum angulare (seen to-day for the first time), and these are changed into Pines and the Heather of our native land; but after a while all vegetation ceases, and you are as it were alone on the bleak rugged mountain, with such blasts blowing round you as make you shiver and tremble lest carriages and horses and you should be blown down the two thousand feet that are between you and your last night's halting-place.

About Burghetto we gathered Lithospermum purpureum-cornuleum, Crocus vernus, Aquilegia vulgaris, and a very curious species of Potentilla with a rough woody stem, from which was formed a dense tuft of leaves and flowers. The leaves were ternate and very hairy, the petals white, with a pretty brown tinge. I had never met with this Potentilla before, and its woody stem distinguished it from any species I knew. We drove by fields bright with the common lilac Anemone, and others again gay with the Anemone hortensis. The only Fern I saw on this day's route that appeared strange to me was a very fine variety of Asplenium trichomanes; it was growing high on the Bracco Pass, its fronds measuring quite a quarter of a yard in length, the pinnules large and very far apart. It did not look the least like the English trichomanes, but yet there was no particular feature to distinguish it from it.

Although I missed strange Ferns from the Bracco, their loss was in some sort made up to me by the strange variety in the beggars; they troop down the hill in parties to meet you; you hear them laughing and chattering as they run, but the minute they approach you the laugh gives place to a low whine, which they will keep up for a great distance. I usually started in the morning with as much money in small coins as I meant to give away during the day, and when it was all gone I began to beg of the beggars, when the whine would cease, and the dark eyes twinkle with fun, and sometimes they would pelt me with flowers in return. There is in the Italian character so much child-like simplicity and aptitude for fun, that even the very beggars win their way into your heart as no other nation has the power to do.

From La Spezzia we journeyed to Siena by rail, staying a short time at Pisa to gaze once more upon its unrivalled piazza, where the baptistry, the cathedral with its leaning campanile, and the Campo Santo stand out white and glorious against the sky. Our way wound at the foot of mountains, the highest of which were covered with new-fallen snow, and looked dazzlingly bright as if with the light of life—the Carara mountains, rich with a hundred varied hues, worshipped at the feet of their white sisters, who seemed so near to heaven that the reflection of its purity fell on them. Siena is chiefly to be noticed for its academy, which contains very fine examples of what is called the Siennese school of painting. Some of these pictures are said to be of the thirteenth century. Duccio of Siena was an established painter at Siena in 1282, and there are several of his pictures still existing to be seen: real artists fall into ecstasies about them, describing their merits in glowing terms, but to my untutored eye most of them were but unnatural, almost grotesque, performances, hard in outline and unmeaning in expression; but I looked at them as I look at the old China Rose, feeling that out of them has been developed all that is beautiful in art, and much that is lovely in nature.

Looking out of the inn window at Siena, I saw the dead body of a poor man being taken to the mortuary—a house for the dead provided by nearly every foreign town for the receptacle of the poor whose small dwellings can ill spare a separate, decent space for their dead. Brothers of, I believe, the Benedictine order, habited in the brown suit of their order, with the hoods drawn over their faces, carried a black bier to the door of the house. Four priests, dressed in surplices, came out, preceding the brother bearing the corpse. This was placed instantly, but with all possible reverence, in the bier, covered with a pall on which was embroidered a gold cross, and the small procession formed, the priests heading it: four brothers carried the bier, while four others walked at the side bearing lighted tapers. The whole ceremony was so quiet and reverent, that I could not help wishing that every parish in England could have its mortuary and its Protestant confraternity to perform offices of love, such as I have described, for its poor.

March 12th was piteously cold, and it was Sunday, so I went to the Duomo or Cathedral to listen to a famed Jesuit preacher, and to gather what flowers of Italian rhetoric I could find. Sermons in Italy are not like sermons in England. The gene-

rality of the people go to mass early in the morning, and to the sermon, if there be one, in the middle of the day; they do not sit, as we do, but are content to stand for an hour together listening in wrapt attention to the eloquence for which Italian preachers are famed. Oh! how wonderful it was to watch that vast multitude of upturned faces eagerly drinking in the rich and varied tones! Hundreds were standing—soldiers, priests, old men and young children, the lame and the sick, the sister of charity in her white hood, side by side with the poor amongst whom she ministers—all listening, all wrapt up in the exceeding interest of the subject; there came a pause, the preacher wiped away the hot perspiration, the multitude murmured loud in assent, then a few finishing words, and it was over. It was a scene, striking in its deep simplicity and in the unrivalled beauty of its surroundings. I wish I could say that the subject of the sermon made it deserving of the attention it met with. It was on the gradual decay of England, in prosperity and prestige since she became Protestant! Few of the Italian poor are educated in any way, nearly all their knowledge comes to them through their priests; and if the source of the fountain be polluted, where shall those who long for knowledge be able to slake their thirst?

The cathedral of Siena is in part unfinished—that is, a proportion of it is left as the builders left it when the plague burst over the town destroying 80,000 of its inhabitants, and all the church revenues were taken to support the poor. What is finished is very perfect, the very floor itself being of inlaid marble figures, the pillars are of rich marbles, and the roof magnificently carved.

Siena is a queer-looking old town with very steep paved little streets, leading up and down and in and out in a most surprising fashion. The cold was intense, and the wood for the fires—so called in mockery—was green, and the chimnies smoked; but it is a place for summer, and very fashionable for Florentines in the hot season.—FELIX-FÆMINA.

## STOPPING AND SYRINGING VINES.

YOUR able correspondent Mr. Wills does me injustice. I have not the paper by me containing my article, neither have I a copy of my letter, but I well remember the observations I made on the stopping of Vines on the spur system. Mr. Wills, in the article before me, sets forth as if I made it a general rule not to stop at all until the fruit is set. I will take up your worthy correspondent's words, and say I must be mad should I attempt to allow a shoot to proceed on in its course without stopping until the fruit were set. I advocated no such system; on the contrary, Mr. Wills advocates two joints, I advocate one, and I stated in some instances that stopping even at the bunch's joint I considered not impracticable. Mr. Wills may well say I should have few advocates if I entertained any such notion; I should consider myself a complete simpleton. I said there is no general rule for stopping, there are exceptions, but N.B., the exception I here name is confined to pot Vines.

In some instances we have no occasion to stop at all. I know not the distance your correspondent and myself are apart, but I should indeed be very happy, and esteem it a great favour, if he would call upon me; I could then show him instances, more than one, where I have had no occasion to stop, and now the shoot is not more than two or three leaves beyond the bunch. In our second house of pot Vines the bunches are mostly cut, yet some good bunches still remain; the third batch is progressing nicely, and he would see in both houses examples I have before named.

And now I must give a double invitation, should it be required, for Mr. Wills's visit. Whatever his experience leads him to follow, I adhere in every respect not only as to two following seasons, but two multiplied by ten, to my system of syringing. I have now a house, that named in my former communication, two years planted out; the syringe has not been stayed more than three weeks, there are bunches hanging from the top to the bottom of the house nicely colouring, and not a stain or discoloration to be seen on any of the berries (Muscats and Black Hamburgs). The pot Vines I treat, so far as regards the syringing, exactly in the same way, and the bloom that is upon the Black Grapes cannot be surpassed. But it appears that your correspondent and myself have disagreed to agree; for most assuredly I perfectly agree with him in reference to the water being clean. Undoubtedly the water must be perfectly clean, or the Grape will be discoloured. I can speak to this from



experience, for when I was at Bangor Castle, Co. Down, Ireland, I commenced my old practice of syringing, as I have done in England. I remember one morning, just as the Grapes began to colour, going through the houses I observed, as I thought, an appearance of mildew; I called the young man who had charge of them, and told him to smear the pipes over with an admixture of black sulphur and milk, but to my surprise I saw the discoloration continue. I then had the water with which they had been syringed analysed, and was told it was chalky water; this caused the bunches to have an appearance of mildew, but otherwise they coloured very well, and when on the table in the evening the defect was not discovered. The following year I had the water brought more than two miles to syringe with, but the same thing occurred again; and from further inquiry, I was informed that no water could be obtained in the county of Down without an admixture of chalk; and there, from sheer necessity, I was obliged to discontinue my favourite practice of syringing the Vines whilst fruiting. I must say that many years experience indorses the statement that where the syringe can be applied, it is followed by the Vines being more healthy, and consequently the Grapes in every respect better and free from that horrid pest red spider. I cannot leave this subject without making a further observation on Mr. Wills's recommendation, and to me very remarkable—namely, using the syringe when the Grapes are setting, not but that I perfectly agree with him that it assists setting (but no one but an experienced Grape-grower can say this). I leave off, not from being afraid, as just said, of the berries setting, but from fear of causing discoloration. The young Grapes when setting are very susceptible of being injured. I believe, I will not say positively, if the person who thins the Grapes should at the time have a nauseous breath, it will cause the rust; the touch of the hand, or the hair coming in contact with the berries, is also, in my opinion, more or less injurious. Having seen the berries nicely set, the bunches thinned, the syringe immediately commences its work, and continues till I see the first appearance of colour.

In respect to fertilisation, I will not disturb Mr. Wills in his opinion, but this much I will say, I never missed setting a Vine yet, neither Muscat nor any other; therefore having done well by nature having its course, I will not, for my part, attempt to disturb her, and I feel very thankful she so kindly favours me with her assistance, and whilst she does so I will in no wise interfere.

In conclusion I will just state that I grow and propagate our own pot Vines, this year about 150, all from eyes, with the exception of about thirty cut-down ones, which are now ripening their wood, to be ready to commence forcing with in October or November. I am glad to see Mr. Wills is going to favour us with his system of pot culture, I shall read his articles I trust with interest, but somehow I am vain enough to fancy if he saw ours at Bush Hall, he would be pleased with them. I have given a challenge to grow six of my own Vines against any six in the kingdom, placing them in the hands of some good disinterested Vine-grower, and letting him have the fruit for his trouble.—A. WHITTLE.

### APPLES—THE DEMOCRATIC FRUIT.

"POPULAR" is a word which is much despised, but may be made respectable. In this country wealth is obliged to pay respect to popular opinion, and of all fruits the Apple is the most democratic—the true democracy—for some democracy that we are acquainted with sprung from the first Apple. This popular favour of the Apple arises from the nature of the tree and the fruit. Any man who can grow corn can raise Apples.

In every soil, and under the most discouraging circumstances, the Apple tree lives and thrives. It can bear high or low cultivation. It is not dyspeptic like the Peach, or apoplectic like the Pear, or scrofulous like the Plum. The Apple is among the fruits like the cow among animals, like the camel, and like all good things, uncommonly—for beauty is only the mask which covers everything that is evil. In the beautiful, evil has struck in and affects the whole vital organism, while in homely women it is on the surface.

Have you never seen the maiden who, in a whole family of girls, remains unmarried, so homely that the lovers have all passed by her, who was the nurse, the mother, the story-teller, to a generation of little ones—the Virgin Mary of the household—the mother of God to little souls, in teaching them the better life—who was more fruitful in all except children, than any of her kindred?

My perfect idea of woman is my dear old aunt Esther, who will spend ages in heaven wondering how she ever got there, and the angels will wonder why she was not always there. What such a one is to the household is the Apple among fruits. Not the least among its excellences is its hardness.

We should as soon think of coddling our forest trees as the Apple tree. It will thrive in the stony lot too steep for the plough, or grow in the meadow, and repay us for the more abundant nutrition.

Where a Mullen stalk or a hill of corn will grow, the Apple will continue to secure an existence. It can be plain or ornate, always able to take care of itself—what I call democratic. It is emphatically the people's tree. In Florida or Canada it is equally at home, and equally good; while on the Pacific slopes it is portentous in size. Newton's Apple, which originated in his brain the science of gravitation, had it grown in California would have for ever put an end to his discoveries, and have opened the heavens to his gaze.

The health and longevity of the Apple tree are unsurpassed. Healthier than the Pear, no blight or disease affects it; worms and insects may lodge upon it, but unbuckling its bark, it exposes them to the wind and storm. An acre of Potatoes will not produce as much as the same area in orchard, with five times the labour. The grub only is a formidable enemy, but is so easily exterminated by a flexible wire, that if you have borers you deserve to be bored.

Farmers never think of nursing their orchards. And as for longevity, I have a tree now growing on my farm at least five hundred years old. Two ladies, now eighty years of age, say that in their childhood it was called the old Apple tree. At 12 feet from the ground it is 14 feet 10 inches in circumference; the fruit sweet and pleasant, though not large. I do not expect to live to see my young trees reach that size. I cannot resist a feeling of respect and awe when I stand in the presence of this gigantic tree, which heard the cannonading of the revolution; underneath whose branches Washington may have walked, musing upon the great task to which he was devoted.

The wood of the Apple tree has uses which we are not accustomed to credit it with.

For firewood it is equal to Hickory, and for cabinet work it is unsurpassed in beauty by any other wood. My best bureau is made of the Apple wood, and resembles Cherry. In Europe the roads are bordered with Apple trees, and the fruit is free to the public, except where wisps of straw fastened to a tree indicate that the fruit is reserved for the owner of the land.

How adapted to such a use is the upright Apple tree; planted along our roads, there would be no temptation for those juvenile saints to rob our orchards. Of all the contrivances to prevent stealing this is the most certain and easy.

The origin of the cultivated Apple is still uncertain; the wild-crab theory is unsettled, for no one has evidence that the seed of the Crab Apple ever produced an improved fruit. No Van Mons ever did for the Apple what has been accomplished for the Pear. Although probable, the theory must remain uncertain until, if by some horticultural Sunday school the Crab Apple has been converted into a good Christian tree.

No other fruit has such a range of ripening and of use. In good cellars it is kept from July to July. Kinds so delicate—and as the General Grant of the Vine would say, "so refreshing," even the Pear cannot rival, not even the Peach can surpass.

The various culinary uses of the Apple, its value in raising and fattening stock, were touched by the reverend lecturer with great humour, and for an hour he held the audience delighted with his picture of country life, interposed with wit and pathos, until he closed with, "And let me not omit to speak of cider. Temperance has banished it from the table, but it is creeping back again, not in its own old homely name, but under the guise of champagne."

As a temperance man I cannot advise you to make cider, but I can say that if you will make cider, I hope you will make it good.

I will not consume more of your time with those eloquent periods with which I intended to close this address, for two reasons—first, it is already too long, and second, because I do not have them at hand.—(BEECHER in *Prairie Farmer*.)

PRESERVING FLOWERS BY GLYCERINE.—Mr. C. R. Tichborne states, in the *Artisan*, that, being desirous of preserving a vegetable *lusus nature* for some time, he submerged it in some weak glycerine, considering that that fluid would be less



likely to destroy the tender organism, and also remembering that it had been found most efficient in the preservation of animal tissues. The glycerine answered its purpose most admirably, preserving the delicate parts of the plant and preventing decomposition. He immediately saw that the property of glycerine might be made available for certain pharmaceutical purposes, where it was desired to preserve or extract the aroma of vegetable products, such as Elder, Orange, or Rose flowers, and also might be substituted for the oils and fats used in the purest process termed enfleurage. The glycerine need not be especially pure, but should be devoid of odour. The Elder flowers should be gathered when the corolla is fully expanded, but not too far gone; they should then be plucked from the stem, and packed firmly in wide-mouthed bottles or jars, without crushing them; and the whole should then be covered with glycerine. Mr. Tiehborne states that he has thus preserved flowers for two years, and, on distilling them, procured a water the perfume of which has equalled the most recent product. For the preservation of the aroma of the flowers he considers the employment of glycerine far superior to the system termed enfleurage, in which heat is used.

### THE FLOWER FARMS OF FRANCE.

THE growing of flowers for the production of fine essential oils and for medicinal purposes, is an important branch of horticultural industry in those departments of France bordering upon the Gulf of Lyons and the Mediterranean Sea, and especially in the southern portion of the Department of Var, adjoining the former Italian, but now French, province of Nice. There are extensive factories in Nîmes, Montpellier, Morbihan, Nice, and some lately established across the sea in Algeria. Smaller establishments are found at Mentone, and all along the Genoese Riviera; but the great and acknowledged centre of this branch of industry, is the town of Grasse, situated about seventy-five miles E.N.E. of Marseilles, a few miles inland, and its seaport Cannes, well known as the winter residence of Lord Brougham. It would be difficult to state, with any degree of accuracy, the product of the flower-fields of this interesting region. There are over sixty factories in Grasse, which is a flourishing place of 12,000 inhabitants, giving employment in the various departments of field and in-door labour, to fully 5,000 persons. Many manufacturers grow their own flowers, others buy them daily in the market, and still others are supplied by contract. The latter system prevails among the leading houses. Contracts are made, at a fixed price for a term of years, for the total product of a farm, at rates varying from 8 to 10 cents per kilogramme (2½ lbs.) of Rose leaves, up to 1 dollar for Tuberose leaves, and even higher for Violet leaves: the latter being mainly produced at Nice. The average prices are about as follows:—

Rose leaves, 8 to 10 cents the kilogramme.	Acacia buds, 60 to 80 cents the kilogramme.
Jasmine leaves, 40 to 50 cents the kilogramme.	Tuberose leaves, 1 dollar the kilogramme.
Orange leaves, 50 cents the kilogramme.	Violet leaves, 80 cents to 1 dollar 30 cents the kilogramme.

These are the leading garden-flowers used in Grasse; only small quantities of the Jonquil, Narcissus, Hyacinth, Mignonne, &c., are produced. A great breadth of land is devoted to Lavender, Rosemary, Thyme, Sweet Marjoram, Cherry Laurel, Sage, Balm, and other medicinal and culinary plants, which are sold at much lower rates than the products of the above-named flowers.

The preparations derived from all these plants divide themselves into four classes:—essential oils, distilled waters, pommas and oils, and dried leaves and flowers. It is true that considerable quantities of extracts of the pommas are manufactured and sold, but they are generally of inferior quality, and will not compare with those produced by the great perfumers of Paris and this country.

The great bulk of essential oils produced consists of Lavender, Rosemary, Thyme, Sage, Spike Lavender, and Sweet Marjoram, all of a terbinthine nature. The most valuable products, of any considerable amount, are the essential oils of Neroli and Petit Grain. The former is the result of the distillation of Orange flower water, from the petals of the flower of the Bigarade or Bitter Orange (the sweet or Portugal Orange yielding a somewhat inferior product), and the latter is obtained from the green leaves of the same tree. The price of Neroli varies with the season from 30 dols to 45 dols. the pound, of Petit

Grain from 8 dols. to 12 dols. These two oils are used extensively in the composition of Cologne water, and in combination with Bergamot and Rosemary, give its distinctive character. The Orange flower water is consumed in immense quantities in France, in the "eau sucrée," so universally drunk in the hot seasons; this, by the way, is the only form in which a Frenchman will drink water at all.

The Bigarade Orange tree also furnishes a rough-skinned, bitter, inedible fruit, from the rind of which is expressed an inferior oil called "Essence Bigarade," often used for adulterating the finer oils. The tree requires ten years to mature, and twenty to attain perfection, and yields an average of 17 lbs. of flowers per annum.

Rose water is also distilled in large quantities. A result of its distillation is a very minute proportion of otto of Roses of the very highest quality; it appears in small supernatant grains or drops, which are carefully skimmed off and rectified. It is superior to the famous Kizaulik or Turkish otto, and, like it, congeals at ordinary temperatures in beautiful, transparent crystals. I saw, at the celebrated manufactory of Mr. Antoine Cliris, who was in all things the leader of his profession, a bottle containing about three pounds, which he valued at 550 dols. or over 11 dols. the ounce. It is not an article of export, the quantity produced being very small, but is reserved for use in unfavourable seasons, or a failure of the flower crop, to give strength and finish to the Pommas and oils. The "Rose de Mai," (*Rosa centifolia* provincialis), or double May Rose, is the one universally grown.

Another very costly article of which less than an ounce had been produced in Grasse at that time, is the essential oil of Jasmine. Its existence in the flower was long and stoutly denied by the distillers, although they failed to prove what other principle caused its fine odour. In 1853 an Algerian chemist obtained a minute quantity, which cost him, we were informed, at the rate of 17,000 francs the kilogramme, or nearly 100 dols. the ounce. It has, since then, been produced at a cheaper rate, but still too dear for commercial purposes. The wild Arabian Jasmine is grafted on the cultivated plant of the same species, acclimated, and bears for many years, if not winter-killed, yielding from 90 to 150 lbs. of flower-petals per thousand plants. It is closely trimmed in spring and deeply covered in winter. The caterpillar is its most formidable enemy.

A most important branch, and one in which great rivalry exists, is the preparation of perfumed pommas and oils, which have a twofold use: first as bases for the finer kinds of hair oils and pomatums, and next as a medium for obtaining spirituous extracts for the handkerchief and the toilet; such as Lubin's well-known "Extraits pour le mouchoir." Their preparation is the most curious and interesting feature of the Grasse establishments.

The pommade "body," which is prepared in winter, is composed of 1 part of beef-suet, and 2 parts of beef-lard (except for Jasmine and Tuberose, which is mainly lard, hardened by mutton or veal suet), thoroughly hashed, washed in several waters, and, among the best manufacturers, washed several times in Rose water to deprive it of all unpleasant odour, then carefully melted and stored away in huge tin cans, in airy, cool vaults, for use in the season of flowers. Another preparation, called "corps dur," or hard body, is made of beef tallow only, and is used in the manufacture of stick pomatums. For the oils, the inodorous virgin olive oil is used, expressed from olives just before their maturity.

The busy operations of the year commence with the Rose season.

There are two processes for impregnating the pommade body, and the oils with the floral odours—one by infusion and maceration, the other by what is termed "enfleurage." The first is employed for the strong, less volatile odours of the Rose, Orange, and Acacia; the latter for the sensitive, ethereal perfumes of the Jasmine, Tuberose, Jonquil, and all the bulbous plants, which will not endure the application of even a moderate degree of heat.

And, first, by infusion. About 100 kilogrammes (220 lbs.) are put into a tin planished copper vessel, placed in a copper water bath, melted at a low temperature, and charged, at day-break, with a certain quantity of the freshly-gathered flowers, which are stirred constantly during the day and night, the mass being kept only warm enough to maintain a semi-fluid state. About midnight it is removed from the fire, poured into strong bags, made of fish cord, and subjected to heavy pressure in large perforated iron cylinders, standing vertically upon marble bed plates, which are gently warmed, to prevent



the congelation of the exuding mass. Next morning fresh leaves are added, and the process repeated daily, until the desired strength of perfume is attained; the pomade is then poured into cylindrical tin boxes, and sealed up for shipment.

The oils are treated in the same manner as to maceration, but are filtered instead of being pressed.

The process of "enfleurage" is as follows:—Large numbers of "chassis" or sashes are prepared, about 2½ feet long by 1½ wide, the frame itself being 2 inches wide and 1½ thick, holding a stout plate of ground glass, and resembling in construction a large school slate. Those for the oils are about 4 by 2½ feet, proportionately heavy, and, in place of the glass, have coarse iron-wire network. The large factories have several thousands of each of these frames.

Upon each side of the glass the pomade is thinly spread, and the surface is channelled or furrowed with a four-tined square-pointed wooden fork, so as to present the utmost surface for the absorption of the odour from the flower-leaves, which are thickly sprinkled upon it. The frames are successively charged with flowers, and piled one upon another, up to the ceiling. The leaves, confined between two strata of pomatum, wither, and yield up their odorate principle, which is rapidly absorbed. Daily renewals of the flowers are made, until the proper strength is obtained. The perfumed pomade is then scraped off gently, melted in a water bath, and poured into cans.

In preparing the oils, coarse, heavy, spongy, cotton cloths, made especially for this purpose at Marseilles, are saturated with olive oil, and spread upon the netted frames; flowers are then strewn thickly upon them, and they are piled up in like manner as the pomade frames. When sufficiently charged with the odour, the oil is expressed from the cloths by powerful levers.

Many hundredweights of flowers and herbs are dried annually, are variously used in medicine, in cookery, and in the composition of scent-bags, cachous, fuming-pastils for the sick chamber, and kindred compounds of the perfumer's art.

The Parmesan or double Violet is grown mainly at Nice, under the shade of trees, and yields a delicate and delightful perfume. It was the favourite odour of the Athenians under Pericles, and is now one of the most fashionable scents of the Parisian *beau monde*.

The flower-farms receive the highest culture. Underdraining was not practised at the period of my visit, but great attention was paid to irrigation. In some fields at Cannes there were complete networks of irrigating-tubes substantially laid in cement. A constant warfare is waged upon insects, and each plant has its particular borer, grub, or bug. Continual vigilance is the price of success.

The heat in summer is intense, though tempered by the sea breeze; and the winter is, at times, as rigorous as at Washington or Richmond.

Male labour costs 35 to 40 cents per day, and female 15 cents. —(*American Gardener's Monthly*.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

At the time of planting Celery, Endive, or any other culinary vegetable, they should by no means be deprived of any portion of their leaves. This practice is still continued by some persons; but it is evidently a bad one, and may be proved as such by trying both methods. In planting great care should be taken to press the soil close to the roots. *Cabbages*, plant out some of last-month's-sown plants, for use in the autumn as Coleworts. Make a sowing at the end of the week for the first main spring crop. *Capsicums*, the plants should be kept watered in dry weather; if a little litter is laid round them they will not require it so often. There is a frequent complaint of their not fruiting sufficiently early to ripen. We know not how it can be expected when the plants receive no attention whatever, and consequently do not begin to grow till the autumnal rains set in. *Carrots*, thin the late-sown crops, and loosen the earth between them where they have been sown in drills. *Celery*, the earliest planted will now require to be gone over, and divested of their small lower leaves and side-shoots. The trenches should afterwards be thoroughly soaked with water, previously to the plants being earthed-up, which should take place the following day as soon as they are quite dry. *Cucumbers*, as the plants on the ridges spread, cover the soil with short litter. This will keep the earth moist and the fruit clean. *Endive*, transplant a few more, and make

another sowing. A few days' difference in transplanting, at this season, sometimes proves of great advantage. *Deaf Kidney Beans*, a last sowing should now be made in a sheltered situation; the drills should be watered if the soil is very dry. *Herbs*, those for drying or distilling should be cut before the flowers expand, as they afterwards lose those qualities for which they are most valued. *Sorrel* should be cut down if required for use in autumn. *Tomatoes* require constant attention to cause them to ripen their fruit; the shoots should be thinned, and those left kept closely nailed to the wall; they should also be watered and mulched in dry weather.

### FRUIT GARDEN.

Attend to the previous directions in regard to the thinning and stopping the young shoots of all trained trees; and now make the final thinning of Peaches and Nectarines, of course leaving the heaviest crop on the most vigorous trees and strongest branches. As a general rule no two fruit should be left together. Plums of the large kinds, as well as the finer sorts of Pears, should also be thinned, if the crop is too heavy. Young Peach and Apricot trees, when making over-vigorous leaders, should have the points of the branches shortened, to encourage them to make other shoots less vigorous, and of a fruitful character. This will obviate the necessity of shortening them back at the winter pruning. Strawberries will require frequent waterings during dry weather. Layer the runners intended for pot culture, as well as those required for making plantations. All spare runners may be cut away, and keep the plants free from weeds. Thin and stop shoots of Figs as soon as they have made a growth of about 6 inches. Remove all useless growth from out-door Vines. Keep fruit close to the wall, and shaded by the foliage from the sun.

### FLOWER GARDEN.

Strong shoots of *Chrysanthemums* may now be layered in pots to produce dwarf compact bushes. Those in pots may soon receive their final shift. All seedlings should be marked, noticing their various properties as to form, colour, and substance. There are few persons, we believe, who are fond of horticultural pursuits but save seeds from some favourite flower, they raise them and watch their opening blossoms with anxious but pleasing expectations of procuring something different from what they have yet seen, but how many are disappointed in their expectations! The cause of this is that no attempt is made to artificially impregnate distinct species or varieties having good qualities, or if it is done, it is done carelessly, and new varieties are not more likely to be produced than by the common practice of saving the seed indiscriminately from every plant that produces it, whether having bad or good properties. This we believe to be the chief reason of so much disappointment in seedlings. One person, by care and attention to impregnation, will have more good flowers from fifty plants than another who has saved seed indiscriminately will from a thousand. Now is the best season for observing the effect of the arrangement of the colours, &c., and if any alteration is deemed necessary it should be carefully noted, which will greatly facilitate its execution at the proper season. Seedling *Polyanthuses* should be carefully shaded from the sun's rays, and watered with a fine rose, this will prevent the ravages of the red spider. *Ranunculus* roots will be better out of the ground as soon as the foliage is withered; the roots to be gradually dried, when this is done too rapidly it is detrimental to those which happen to be in a weak state. Continue to propagate *Picotees*, *Pinks*, and *Pansies*. Clip Box-edgings in cloudy weather. Bud Roses. Mow and roll lawns, and follow up assiduously the extirpation of weeds.

### GREENHOUSE AND CONSERVATORY.

Hardwooded plants, including most of the genera from New Holland which bloom early in the spring, and which after blooming received the necessary pruning, &c., will now be so far advanced in their new growth that any requiring to be potted should at once have a shift. After turning them out loosen the outside roots before placing them in their new pots, to enable them to take to the fresh soil more readily. Keep them close for a few days, especially if the roots have been much disturbed, and damp once or twice daily overhead, water carefully at first, taking pains to insure the old ball having its proper share until the roots get established in the new soil. Continue *Epicurises* under glass till their growth is complete, but more air and light should be allowed, then increasing it as the wood gets firmer. In the beginning of next month they may be placed out of doors in an open situation where they can be protected from heavy rains. Some of the stove plants



that have recently been brought into the conservatory will require attention to prevent their being injured by damp during cloudy weather, and it will probably be necessary to use slight fires occasionally for the purpose of drying the atmosphere of the house. Continue to carefully regulate the growth of the twiners, but avoid tying them too close, and allow them to grow according to their natural habits as much as circumstances will admit.

#### STOVE.

The plants that are intended for the decoration of the conservatory in autumn should now be carefully looked over, shifting such as are likely to want more pot-room, with a view of getting the pots well filled with roots before the plants are required to be in bloom. Keep, also, the shoots tied-out rather thinly and expose the plants to as much sunshine as they will bear without scorching their foliage in order to keep them low and bushy. Give clear weak manure water to young growing specimens, and repot any that are intended to have another shift this season, so as to have the pots well filled with roots before winter. Maintain a moist growing atmosphere, and syringe vigorously any plant at all infested with red spider. Growing Orchids should be encouraged with plenty of heat and moisture while that can be done safely. See that plants on blocks and in baskets are properly supplied with moisture at the roots. To prevent any mistake in this matter carefully examine every plant at least once a-week, and immerse any found to be dry in tepid water until the material about the roots shall have become well soaked. Syringe lightly morning and evening, and sprinkle floors, &c., in order to keep the atmosphere thoroughly moist.—W. KEANE.

#### DOINGS OF THE LAST WEEK.

On Saturday, the 8th inst., we had a severe storm of thunder and hail, which riddled a good many broad-leaved plants. We notice it in order to record the fact, that large squares of 16-oz. glass were uncracked and unbroken, but we observed that many of the hailstones rebounded from the glass fully 3 feet in height, and that the glass waved and bent considerably. There would be less risk of breakage with stouter glass, but then it would bend and curve less to the stroke of the hailstones. On Sunday, the 9th, we had some three and a half hours in the afternoon of continuous thunder and down-pouring rain, which seems to have well soaked the ground, and has laid the best fields of Barley considerably, but several cattle and sheep were killed. No ordinary spouting could accommodate such down-pouring, and, therefore, we received much less in our tanks than we expected. The heavy rains shot quite over the spouts. There is now in this neighbourhood little likelihood of being so dried up as we were last season. Wednesday, the 12th, was a beautiful dry day, and even the flowers with a little cleaning were opening freely to look as bright gems over the now fine green of the foliage and lawns, but the weather became wet again on Thursday, and if it continue the very best flower-beds will have a wobegone appearance. When the beds are full of leaf and bloom at this season, it tries the patience and equanimity of the gardener to find the results of his skill and unwearied care, little better to look at by visitors of the family than so many mounds of drowned mice. Who will have the honour of being the first to cover an acre, or even half an acre of the finest modern flower garden with glass, so ventilated by leverage power that even the rains and dews can be admitted at will, and rains and boisterous winds also be excluded at pleasure? We venture to say that such a garden would yield more continuous satisfaction than a dozen acres of flower garden in our uncertain climate. Probably, however, there may be a bewitching charm in the very uncertainty of being able to see such modern flower gardens at their best on a certain day, just as there is, at least, some test to the depth of that love which is not permitted to develop itself in the smoothest of channels. Well, there is no accounting for tastes, but we would be quite willing to make a present of our share of the pleasure arising from the thorough uncertainty of having a flower garden brilliant against a certain day, with the likelihood of our changeable climate marring all our expectations. In one thing we must rejoice, the beautiful luxuriance that is now spreading over the brown parched pastures.

#### KITCHEN GARDEN.

Proceeded with planting out Winter Greens as we could get ground cleared for them. Planted more Cauliflower, Lettuce, &c., these being always indispensable. Staked late Peas, the

medium crops being richly flavoured after the rain. In some hot days gave the slightest shading to Cucumbers to keep them sweet. In such weather as we have lately had, Cucumbers, fully exposed out of doors, or even with air on under glass, are apt to be a little bitter, though in some seasons where they had unobstructed sunlight they were always crisp and sweet. The bitterness, we consider, is not so much owing to unobstructed sun as to the fierce sun and dryness combined. In many cases the complaints of Cucumber-eaters arise from having the fruit sent to them when it is too large and old. If sent in the young state there would be fewer complaints. The mistake has arisen from country societies too generally patronising length and size. Some time ago we heard an exhibitor very wroth because his Cucumbers were passed by. The judge, to silence him, took hold of the Cucumber by one end, and the other end at once pretty well joined it, the body of the Cucumber making a beautiful arc of a circle. There was no reply to the question, "how long such specimens had been cut and kept in the cellar." The person who would venture to eat such Cucumbers, after a due allowance of salt, vinegar, oil, and even young Onions, might as well have presented so much leather to the organs of digestion. Even Cucumber-eaters would be wise if, after attending to all the usual preliminaries, they sent such huge specimens of growth to be duly digested in the rubbish-heap, or followed the receipt of Dr. Johnson, and pitched them out of the window. Cucumbers grown in frames will now also be better of a little bottom heat from linings. A strong sun heat and a cold wet soil will be next to certain to make the fruit hard and bitter, and to militate against healthy luxuriance. We are short of material for this purpose, but anything that will keep cold out and send a little heat in, as a mixture of short grass and litter, will be of use, and will add to the future manure-heap.

*Tomatoes.*—Mulched, and fastened these against fences, walls, &c. They do pretty well, if well thinned, on sloping banks. They are but little used in this country in the green state as salads; but they are largely used in this way in America. Some time ago, an Englishman who became, as he said, a thorough Yankee told us that when green and small, Tomatoes made an excellent ingredient in salads, along with green Capsicums, Cucumbers, &c., and ended with telling us that "Yon old-country folk do not know how to use the blessings that Providence gives you."

*Mushrooms.*—Earthed up a piece of the bed in shed. The first part is now coming in. Will clear the house as soon as possible, as the decayed dung will do when riddled for mulching the remainder of the flower-beds. When cleaned out, we will smoke well with burning sulphur and a little turpentine to kill all insects, and woodlice in particular. We generally in this lean-to house to the north, get on very well during the winter—but as the warmth of the end of spring comes, so do the shoals of woodlice visit us; though we trap and kill myriads, we can never clear the place of them entirely until we take away the beds and burn sulphur as stated above, with all crevices shut up. It would never do to adopt such a system with the beds in bearing. Sulphur, as well as lime, is a great enemy to the whole, or nearly the whole of the fungus family. We believe we get the woodlice intruders in spring from taking them in with the dung for the beds, and in old gardens it is scarcely possible to find a place completely free from them. They multiply also very fast in a warm place. In some cases we have seen myriads of them when they seemed to care nothing for anything but warmth and dryness, never touching a Mushroom at all. In other cases we have known them assail every Mushroom that came when not much larger than pin heads, and in other cases we have found them roosting and eating among the laminae of a large specimen, like bees clustering among their combs. One advantage of beds in open sheds, or even out of doors in summer, is that there is little temptation for such intruders to go there. Warmth and dryness are what they chiefly like—so much so, that one wholesale way of getting rid of them, is to water the surface of a bed, and place a little dry hay along the back and front. In a few hours every one of the woodlice will have taken refuge under the thin layer of hay, and boiling water poured on with one hand whilst the hay is gently lifted with the other, will make short work of them; and as death must be next to instantaneous, there can be no great charge of cruelty, when once we have resolved to destroy if we can. We often think that the whole practice of snaring and trapping larger animals well deserves legislative consideration. The amount of torture thus inflicted is next to incalculable, and has a tendency to



deadened human sympathy and feeling. There was much humane appositiveness, though blended somewhat with the paradoxical, in the exclamation of the young lady when frightened with a sight of what she deemed a loathsome reptile, "Oh, kill it, but do not hurt it." If we claim the right to kill, we have no right to cause unnecessary pain to any living thing.

#### FRUIT GARDEN.

Proceeded with gathering small fruit in fine days. Unless people particularly wish it, there is little economy in preserving Gooseberries, Currants, or even Morello Cherries to the latest possible period on the bushes and trees. We have had Gooseberries pretty good in the end of October, and Currants and Cherries until long after Christmas; but we rarely found such fruit, especially of the last two, sufficiently used and partaken of either for dessert or for puddings, tarts, &c., to compensate for the covering, &c. They might as well have been bottled, or preserved, or brandied at once when ripe, and thus saved all the attacks of birds, and the trouble and expense of protecting them. If they are to be kept, we and others have already stated how it may be done most economically with straw hands and matting, and most efficiently with waterproof tops and air at the sides. A bush may be well protected with a cover like a huge hand-light; the top, tin or zinc, and the sides galvanised iron pierced with holes, or even of stout book muslin, or something like thin tiffany. Some of these modes we advise for those who pride themselves on having fresh-gathered Currants at Christmas. The Morello Cherries are just beginning to ripen—just soft enough for the birds to begin to nibble them. All the best Cherries have been unusually early this season. With the exception of the Florence and other late ones, few will hang much longer on the trees to please us.

*Wall Trees.*—Went over Apricots, shortening in the breast-wood of that which had been shortened previously, and eased the fruit where too thick or too firmly set between wood to swell freely. Did the same to Peaches and Nectarines. In the first and subsequent thinning of such fruit preference should be given to those which stand on the front of the shoot instead of those on the side; but even then some fruit on the side and sometimes on the back of the shoot may be left, and unless these are eased, and kept from the wall or trellis, they will be injured as they approach maturity. The dry summer hitherto has given us but few strong shoots on Peaches out of doors; but where these have been stopped early to equalise the strength of the shoots, it will be desirable to choose one or two of the lateral shoots produced for the permanent ones, according as there is room for them, not forgetting that one shoot of medium strength—that is, about the thickness of a quill—well ripened by exposure to sun and air, is better than half a dozen similar shoots crowded up into a bundle, so that they cannot possibly get enough of either sun or air. There is scarcely one of us that has not too much young wood on his trees in summer.

*Apples and Pears,* dwarf standards and pyramids out of doors. —Went on shortening the points of the young shoots as we could find an opportunity. In many cases nipping out the point is better than cutting well back just now. The latter mode tends to make a fresh outburst of young shoots that will not ripen before winter. The former mode arrests mere growth, and even if a few wood-buds break the backward buds on the shoot are almost sure to be changed into fruit-buds for the following year. As the autumn approaches we must be thinking more of ripening wood than of increased and prolonged growth. What applies to fruit trees on walls and borders outside, applies still more to trees in cool and forcing-houses. Strawberries, commenced taking good runners for next year's forcing. The drought and little growth prevented us doing so sooner. We shall, therefore, for our first crop, use a few of the plants that were forced this spring.

*Peach-house, Fig-pit, and Vinery.*—Gave a good manure-watering to the first two, and having removed all the shallow litter covering from the last as respects the outside border, threw a dusting of soot and lime over it, expecting it to be washed in by the rains that did come. We observed some worms near the surface of the border from the fresh crowding that had been applied last autumn, but the lime and soot would soon make short work with them, though in moderation they are good cultivators, instead of doing much harm. Probably it was the worms that enticed some moles that have rather troubled us in the garden, to make their runs all through the surface of the Vine-border. We had no fancy for them driving their tunnels among the Vine-roots, and we hope we have stopped them. The roots are so near the surface that we found

we could not plant a row of different kinds of Scarlet Geraniums along the front of the border without injuring the roots. To trap the mole successfully, a little spud of wood should be used, and even the trap should be set with a gloved hand, and if the glove has been rubbed with the skin of a dead mole all the better. The animal, if somewhat deficient in sight, is so powerfully gifted with smell, that the scent of the hand about the trap will generally cause him to avoid it, either by retreating, shoving more earth against it, or driving a tunnel underneath it. But for the injury it might do in such places, and the unsightliness of the mounds in dressed grounds, we incline to think that as respects cultivation, the mole, like worms, does more good than harm.

*Melons* that had no shade, except a little given to the changing fruit on the very hot sunny days, have been ripening very kindly. If this wet weather should continue, and the atmosphere become and continue colder, linings round frames will be desirable, and the surface of the bed must be kept dry, though moisture be communicated to the roots, otherwise there will be danger of cracking, bursting, and rotting. The fruit in no case should lie on the soil, and if moved frequently as it approaches maturity, it will be more regularly ripened all over. The last crops for frames and even for hot-water pits should now be planted. The advantage of the latter is, that you can obtain dry heat in autumn. For the generality of our summers, nothing beats a good dung-bed and frame for summer Melons, and they generally give less trouble than when in pits. Our own opinion is, that for weight and flavour in proportion to size, the best results are obtained from Melons, when the head is trained to a trellis, and the fruit is suspended until it begins to reach maturity, when it must be supported by a net or otherwise.

#### ORNAMENTAL DEPARTMENT.

Here the work was much as last week. Mowing, machining, rolling walks and lawns, pegging Verbenas, tying herbaceous plants, regulating flower-beds, trimming broad rows of Cerasium so as to make them uniform, potting, and preparing cuttings of Pinks, Wallflowers, Cloves, &c. We have, however, filled our space, and must be content with noticing that this season as yet we are disappointed with.

*Cloth of Gold Geranium.*—We turned out fine, strong, young plants, and on the whole they seem to have become less. Similarly treated on a contiguous border in a similar line we turned out young plants of Golden Chain, and they have done beautifully. Cloth of Gold did well with us last year, but this season where it does well is in a place protected from much wind, and also from the afternoon sun. We thought last year that we would dispense with Golden Chain, but we must give it a higher place in our regard. We would be glad to know how Cloth of Gold has done in other places, and as far as possible the circumstances under which it does well. Two little beds of Mrs. Pollock, with an edging of Baron Hugel, have as yet done well, although quite as much exposed as Cloth of Gold. It strikes us that the latter is tenderer than we thought, as, with the exception of the sheltered place referred to, it has not as yet done first-rate with us in any other position. We shall be able to dispense with it when once we get plenty of Miss Watson (Mr. Watson, of St. Allans), Lady Cullum, Lucy Gieves, and other fine seedlings of Mr. Gieves's that as much excel Mrs. Pollock as that pretty kind excels Golden Chain and Cloth of Gold.—R. F.

#### COVENT GARDEN MARKET.—JULY 15.

LARGE importations continue to arrive from abroad, consisting of Green Gages and other Plums, and Apricots. Of home-grown fruit there is a heavy supply of Grapes and Peaches and Nectarines, particularly the last two. For Pines of English growth the demand is not brisk, owing to large quantities, of very good quality, having come in from the West Indies. Vegetables of all kinds are fully equal to the demand, and of new Potatoes there is an abundant supply.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples..... $\frac{1}{2}$ sieve	1	0	to	3	Melons..... each	2	0	to	6
Apricots..... doz.	1	4	3	0	Mulberries..... punnet	0	0	0	0
Cherries..... lb.	0	0	0	6	Nectarines..... doz.	10	0	15	0
Chestnuts..... bush.	0	0	0	0	Oranges..... 100	10	0	20	0
Currants, Red $\frac{1}{2}$ sieve	3	0	4	0	Peaches..... doz.	12	0	24	0
Black..... doz.	4	0	5	0	Pears (kitchen)..... doz.	0	0	0	0
Figs..... doz.	8	0	12	0	dessert..... doz.	0	0	0	0
Filberts..... 100 lbs.	0	0	0	0	Time Apples..... lb.	3	0	6	0
Cobs..... doz.	50	0	60	0	Plums..... $\frac{1}{2}$ sieve	0	0	0	0
Gooseberries..... $\frac{1}{2}$ sieve	2	0	3	0	Quinces..... $\frac{1}{2}$ sieve	0	0	0	0
Grapes, Hambro..... lb.	3	0	6	0	Raspberries..... lb.	0	6	0	8
Muscats..... lb.	4	0	6	0	Strawberries..... lb.	0	6	2	0
Lemons..... 100	5	0	10	0	Walnuts..... bush	14	0	20	0



VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....each	0	4	0	6	Looks.....bunch	0	3	0	6
Asparagus.....bundle	0	0	0	0	Lettuce.....per score	0	9	1	6
Beans Broad.....bushel	3	0	5	0	Mashrooms.....pottle	2	0	3	0
Kidney.....doz.	3	0	5	0	Must.&Cress,punchet	0	2	0	0
Beet, Red.....doz.	3	0	4	0	Onions.....doz. bunches	5	0	0	0
Broccoli.....bundle	0	0	0	0	pickling.....quart	0	6	0	8
Brus. Sprouts.....½ sieve	0	0	0	0	Parsley.....½ sieve	1	0	1	6
Cabbage.....doz.	0	9	1	6	Parsnips.....doz.	1	0	2	0
Capsicums.....100	0	0	0	0	Pars.....quart	0	9	1	6
Carrots.....bunch	0	4	0	8	Potatoes.....bushel	2	6	4	0
Cauliflower.....doz.	3	0	6	0	New.....bushel	4	0	5	0
Celery.....bundle	2	0	3	0	Radishes doz. bunches	0	6	1	0
Cucumbers.....each	0	6	1	0	Rhubarb.....bundle	0	2	0	4
pickling.....doz.	0	0	0	0	Savoys.....doz.	0	0	0	0
Endive.....score	0	0	0	0	Sea-kale.....basket	0	0	0	0
Fennel.....bunch	0	3	0	0	Spinach.....bushel	4	0	5	0
Garlic and Shallots, lb.	0	8	0	0	Tomatoes.....doz.	3	0	4	0
Herbs.....bunch	0	3	0	0	Turnips.....bunch	0	4	0	6
Horseradish.....bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

BACK NUMBERS, &c. (*Man of Kent*).—You can have all but Nos. 41, 42, 49, 50, 51, and 52; and you can have covers for any of the volumes.

RAISING TREES, &c. (*A Young Nurseryman*).—There is no very modern book devoted to this subject. You would find Abercrombie's "Gardener's Vade-Mecum" serve your purpose, if you can meet with a second-hand copy.

ONION GRUBS (*G. V. S.*).—The bulbs of Onions suffer from the grubs of two genera of flies—*Anthomyia* and *Eumerus*. There is but one remedy—burning every bulb attacked, and sprinkling a little gas lime on the surface between the rows, to keep the parent flies from approaching to deposit their eggs.

ROSES MILDEWEA (*C. Hamilton*).—Sprinkle them with lime water, to destroy the fungi, but nothing you can do will restore leaves so virulently attacked. Water the roots copiously; mulch the surface; and continue watering abundantly during dry weather. Weak liquid manure once a week will benefit the trees.

ATRICIA CULTURE (*W. E.*).—To answer your queries would require us to detail the whole cultivation. You can purchase the good varieties of any of the florists who advertise in our columns; and for four postage-stamps you can have, free by post from our office, No. 201 of our Journal, which contains full directions for their successful management.

SELECT ROSES (*A Young Subscriber*).—The following Hybrid Perpetuals will probably suit you, and are not expensive:—*Senateur Visse*, General Jacquemont, Jules Margottin, Madame Rivers, Anna Alexicoff, Caroline de Sansal, Eugene Appert, Geant des Batailles, Madame Donage, Maurice Bernardin, Louise Odier, Catherine Guillot. All the above may be had as standards.

GROWING POTATOES SPROUTING (*H. L., Oron*).—It is very usual for Potatoes in the ground to sprout (ebit or sprit, as some term this growth), when rain occurs after long-continued drought. As the tubers of your crop are a good size, we should take them up at once and sell them. We should try planting again, if we needed Potatoes, and could obtain some of last year's Potatoes for sets. We have known a July-planted crop very productive, and ready for taking up in October. We would even try, as sets, some of the sprouted tubers of your crop, taking care not to rub off the sprouts, or allow them to wither.

NAME OF CHERRY, &c. (*An Old Subscriber*).—It is the Royal Duke. *Hedera Rezneryana* is an unjustified name for *Hedera colchici*, discovered more than a century and a half since in Japan, by Kamper, the discoverer, as we mentioned last week, of the Aucuba. Mr. W. Paul, who has paid much successful attention to the genus, describes it as having its upper leaves narrow-elliptic; flowers in simple racemes; pedicels and calyx covered with yellowish scales. It is found in the Himalaya, Northern China, Loochoo Islands, &c. See "Names of Plants."

VARIEGATED PLANTS—*FUCHSIAS* AND *GERANIUMS* (*Mrs H.*).—*Bambusa Fortunei* variegata, *Arundo donax* variegata, *Dracaena australis*, *Yucca filamentosa* variegata, *Aralia Sieboldi* variegata, and *Chorola cornuta*—these are good greenhouse variegated plants. *Fuchsias*: *Comet*, *Emperor of the Fuchsias*, *Henry Abts*, *Minnie Banks*, *Universal*, and *Rose of Castile*. *Geraniums*: *Ariel*, *Excelsior*, *Symmetry*, *Modesty*, *Confederation*, and *King of Secrets*. Now is a good time to obtain them to grow into specimens for exhibition next year.

MILDEW ON GRAPES (*T. H.*).—Have a soap-plate full of flowers of sulphur; dip each bunch into the sulphur, so that every berry may be dusted all over. Leave the sulphur on for a week, and then syringe. If mildew still appear apply the sulphur again. Admit air freely; this and the syringing will drive away the spiders.

BRAIN CORAL.—*PETRIFIED MOSS* (*J. L.*).—"Brain coral" may be got at any shell shop. "E. B." got his petrified moss from a brook near Tenbury, Worcestershire. "G. G." says, "They are to be procured at Buxton and Matlock. If your correspondent has any friends in that locality nothing is easier to obtain."

NARDOO SOWING (*St. Bartier*).—We had this germinating in a pan filled to within half an inch of the rim with peat, and chopped moss, the spores being sown on the surface, and covered with about a quarter of an inch of water, and kept so for six months after sowing in a close moist stove. The next six months the pan was kept sprinkled with water every morning; the pan stood in another pan of water, but not so as to keep the surface covered. Here our experience ends. We should be obliged by any of our correspondents stating their experience of the successful culture of this plant.

MANAGING CALADIUMS (*Bessie*).—Pot them in March in turfy peat, loam and leaf mould, in equal parts, with a free admixture of silver sand. Water sparingly at first, and plunge the pots in a mild hotbed. When growing freely water copiously, and shade from very bright sun. Give plenty of pot room, free drainage, and liquid manure at every alternate watering. They like a brisk moist heat of 65° to 85° when growing, and the heat of a stove in winter. When the leaves begin to turn yellow, diminish the supply of water, and stand the pots on a damp floor, so that the soil may not become dust dry during the winter—that is, after the plants go to rest, which will be in October. They should have a temperature of from 60° to 70° in winter.

BUDDING ROSES (*S. D. R.*).—After inserting the bud you may cut the shoot down to 6 inches above the bud, and as much nearer as you please, only leave a growing point above the bud. The part left should not be removed or cut down to the eye or bud until the latter commences to grow in the ensuing spring. When the bud makes a shoot the same season as budded, that shoot should not be pruned until the beginning of the following March. When they push in the spring they should be allowed to grow until July, when they will mostly flower, and after blooming they may be cut-in to six or eight eyes, or, if no flower-buds form, stopped at the sixth bud for a week, and at the eighth for a strong shoot. It is best to bud on the main stem of the Maudslayi, removing the soil so as to bud about an inch below the surface. You may bud on the side-shoots, and when the bud grows place earth against them, so as to cover the union; but this is a ready mode of obtaining suckers. The shoots, after budding, should be shortened to three or four joints above the bud. After the bud grows replace the soil, covering both stock and bud, and cut down the bud in March.

MANAGING VINES (*J. M. T.*).—We think the course pursued by your gardener is quite right. No harm can come of syringing the Grapes with soft water up to their colouring; and his thinning them three weeks ago, and again now, shows they were too thick. Provided the thinning is not done so as to make the bunches too loose and open, you will have finer berries, and they will keep much longer. There is no fear of the berries bursting, and, if there were, thinning would only aggravate an evil of that kind. If there be any sign of mildew, it is altogether wrong to continue syringing. They should have a drier atmosphere, and be dusted with sulphur at the infested parts. We suppose they are infested with red spider, and that is why the gardener syringes them. Syringing with soft water, accompanied with fresh air early, can do no harm, but is often necessary to keep down attacks of red spider, which is this year unusually troublesome.

PLANTS FOR STOVE AND GREENHOUSE (*A Constant Reader*).—*Apelandra cristata* and *A. Leopoldi*, *Burchellia capensis*, *Ardisia crenulata* and *A. fructu-alba*, *Eranthemum rubrovenium*, *Franciscia confertiflora* and *F. Hopeana*, *Meyenia erecta* and *M. erecta alba*, *Poinsettia pulcherrima*, *Sonerch margaritacea splendens*, *Thyrseanthus rutilans*, *Rondeletia speciosa major*, *Medinilla magnifica*, *Luculia gratissima*, *Ixora acuminata*, *L. coccinea*, and *L. javanica*; *Hebeclium atrovirens*, *H. aurantiacum*, and *H. inthinnum*; *Graptophyllum pictum*, *Gardenia Stanleyana*, *G. radicans*, and *G. citriodora*; *Euphorbia jacquiniiflora*, *Cyrtoceras reflexum*, *Clerodendron Fallas* and *C. Kämpferi*, *Conradia grandiflora*; to which may be added, of climbers suitable for training on wires, *Stephanotis floribunda*, *Cissus discolor*, *Clerodendron Thomsonia*, *Echites splendens*, *E. crissiodora*, and *E. magnifica*; *Hoya bella*, *H. carnosa*, *H. carnosa variegata*, and *Schubertia graveolens*. The above are all free-flowering or ornamental stove plants. There are many others equally, or more so, but we give these as reasonable in price for you to choose from. Greenhouse Plant: *Chorozema cordata splendens*, *Boronia Drummondii*, *Cassia corymbosa*, *Aphelexis macrantha purpurea* and *A. proflera Barnesii*, *Acaecia Drummondii*, *A. arnata*, and *A. grandis*; *Abutilon venosum*, *Coronilla glauca*, *Crowea saligna*, *Cytisus Atlantica* and *C. racemosa elegans*, *Eriostemon intermedius* and *E. buxifolius*, *Monochaetum ensiferum*, *Indigofera decora*, *Rhododendron jasmminiflorum*, *Swainsonia Ferrandi*, and *Tremandra ericoides*. *Camellias*, *Azaleas*, *Heaths*, and *Euphrasies* we omit, as they are well-known plants, though quite indispensable.

VINES FOR EARLY AND LATE VINERY (*Idem*).—Five for early vinery: *One Foster's White Seedling*, *one Buckland Sweetwater*, *two Black Hamburgh*, and *one Pope's Hamburgh*. Four for late vinery: *One Lady Downe's*, *one Alicante*, *one Bowdoin Muscat*, and *one Royal Vineyard*.

VINE CULTURE—GREENHOUSE (*M. R. C. S.*).—"The Vine Manual," 2s. 6d., and "Greenhouses for the Many," 6d., may be had free by post from our office, if you enclose 3s. 2d. in postage stamps with your address.

HYBRIDISING (*H. T. A.*).—We know of no publication confined to this subject. Johnson's "Science and Practice of Gardening" contains much upon the subject. You can have it free by post from our office for 3s. 4d. in postage-stamps.

ORANGE TREE (*S. T., jun.*).—In the "Cottage Gardener's Dictionary," under the head "Citrus," there are full directions. Cranston's is a good system of ventilation.

EARLY PEAS.—*A Subscriber* has written to us about Dickson's "First and Best." If he will furnish us confidentially with his name, we will publish his communication. Such communications from anonymous writers are of no authority.

MOWING MACHINES (*W.*).—We cannot recommend one in preference to others. They all do their work well if properly managed, and taken care of. No specimens arrived in your letter.



**EARWIGS (J. H. H.).**—We know of no mode of destroying them except by inducing them to conceal themselves in inverted pots containing moss, hollow stalks, &c. Are there any flowers which earwigs would prefer to Dahlias, if grown in their vicinity?

**NAMES OF PLANTS (Matilda).**—1. Starved completely out of character—perhaps *Lastrea glabella*; 2. *Platyloma rotundifolium*. (John Boyd).—1. *Pteris aquilina*; 2. *Nephrodium molle*. (H. L.).—Wretched specimens, some of which appear to be—3. *Selaginella Martensii*; 4. *S. uncinata*; 5. *S. cordifolia*; 6. *S. denticulata*. (H. L., Leeds).—1 and 2, *Blechnum spicant*; 3, *Polypodium dryopteris*; 4 and 9, *Lastrea dilatata*; 5, 6, and 10, *Lastrea Filix-mas*; 7 and 8, *Athyrium Filix-foemina*. (R. H.).—Your

climber is the purple-flowered variety of *Clematis viticella*, or Vine-bower. (A Young Beginner).—It is *Aretotis reptans*, which the late Mr. Beaton so prized for an edging, and named "The Frosted-silver Plant." (E. C. T.).—*Cotyledon orbiculatum*. (Harry).—1. *Rhododendron hirsutum*; 2. *Viburnum lantana*; 3. *Euonymus latifolius*; 4. *Magnolia tripetala*; 5. *Escallonia rubra*; 6. *Xanthoxylum speciosum*. (Old Subscriber).—1. *Lagurus ovatus*; 2. *Clematis erecta*. (W. Earley).—*Epipactis purpurata*. (R. S.).—1. *Gaultheria shallon*; 2. *G. procumbens*; 3. *Vincetoxicum officinale*; 4. *Anigonzanthos coccinea*. (J. M.).—1. *Villarsia nymphæoides*; 2. *Digitalis lutea*; 3. *Pernettya mucronata*; 4. *Echinops ritro*. (Orchidophilus).—*Oxalis cernua*. The Orchid was entirely crushed.

### METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 15th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 9	29.842	29.792	74	48	66	63	S.W.	.10	Cloudy and fine; very fine; thunder in afternoon; rain.
Mon... 10	29.814	29.700	70	48	644	621	S.W.	.06	Fine; cloudy; fine throughout; cloudy at night.
Tues... 11	29.744	29.708	71	40	631	62	W.	.00	Cloudy; fine throughout.
Wed... 12	30.065	30.007	73	43	63	611	W.	.04	Clear; deep blue sky; white clouds, and dusky; rain at night.
Thurs. 13	29.943	29.849	68	49	63	61	S.	.07	Rain; densely clouded; showery.
Fri... 14	29.921	29.856	77	40	65	601	S.W.	.00	Very fine, with white clouds; cool at night.
Sat... 15	29.832	29.885	86	58	631	62	S.	.00	Very fine, with light clouds; clear; quite cloudless, with hot sun; very fine.
Mean..	29.890	29.823	74.71	46.57	63.78	61.78	....	0.27	

### POULTRY, BEE, and HOUSEHOLD CHRONICLE.

#### DUCK-FOOTED GAME FOWLS.

SEEING in your Journal that a pen of Game fowls, otherwise meritorious, lost all chance in competition from the "fatal defect" of being "duck-footed," or duck-heeled," may I ask you to tell me what the defect is?—whether there is too much web between the toes, as "duck-footed" would seem to imply, or whether the hinder toe is inclined too much downwards and forwards (as I have seen it in some Game fowls), instead of being set on well behind the foot, and projecting straight and flat, as the term "duck-heeled" would lead one to infer, and whether either or both of these conditions of the foot in Game fowls are fatal to success in competition? These are niceties which are not mentioned in books; neither Mr. Baily nor the "Poultry Book," mentions the term, and yet from such defects a pen is often passed over at shows, much to the disappointment of their owners, who being young hands like myself, or "exhibitors in a small way," begin to question the honesty of the judges.

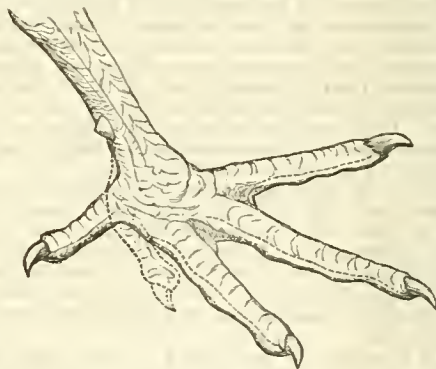
I keep a few fowls and like to encourage shows by exhibiting occasionally, but one tires of sending them, where the item of carriage is a considerable one, unless having some prospect of success. My own time is too much occupied to allow me to get far from home to gain practical knowledge at shows by scanning the winners, there being no shows or next to none near London, nor have I any neighbours learned in poultry, nor a "WILTSHIRE RECTOR" near me, who seems always ready to impart knowledge on his favourite subject.

Having neither of these helps near me I am obliged to fly to books, and "Our Journal," and the latter, I think, does not quite sufficiently consider the class of poultry amateurs of which I am one, for in its articles on the points of excellence in fowls, the exhibitors of Game fowls are generally thought to possess all the knowledge that is required, and are usually dismissed with some such generality as the following:—"Exhibitors of Game fowls have nothing to learn." Granted: as a body they send their stock to exhibition as perfect as can be, but we must all have a beginning, and we can only arrive at that knowledge which many have attained by degrees; and if you do not assist the beginner, where is he to look for information? and I am satisfied the more you tell us of the way to try to attain excellence, and of the points of excellence in poultry, the more will amateurs possess themselves of good specimens, and the more will poultry shows flourish. I have several times hesitated about sending fowls to exhibitions, and I have known several other amateurs similarly unwilling to exhibit, because I did not know whether they were good enough to stand any chance of success. I trust I have written in no complaining spirit, but have only expressed what I have felt as a want, and I am sure I am not singular.—MAN OF KENT.

[We never expected to be charged with giving curt replies, for we fully appreciate the good effected by full and correct

answers, and spare neither expense nor effort to obtain them. We sent your letter to Mr. Hewitt, and this is his reply:—"I have taken the enclosed drawing of the leg and foot of an otherwise excellent young Game cockerel; but, unfortunately, labouring under this fatal defect in the right foot only, rendering him as useless for fighting as he is for exhibition.

"Of course, this is a great annoyance to the owner of the bird, as undoubtedly in all other respects, as to feather and also in hand, he is one of the best cockerels I have met with of this season, being hatched as early as January. A bird thus faulty, more particularly where the malformation exists in both feet, if closely and quickly pressed when fighting, invariably falls backwards, having no support from the back toe—a position highly favourable to his antagonist, and a most critical moment for himself. I may add, that a cock only partially 'duck-footed,' if greatly excited and exhausted, becomes even more so as weakness steals on.



"The plain outline shows the foot as it should be, the dotted one the defect known as 'duck-footed,' or 'duck-heeled.' Of course it is not intended to represent two toes, but the same single toe in the two different positions, 'right and wrong.'"

#### AMONG THE MENDIPS WITH MR. ROBBARD.

No. 1.

"TICKET for Yatton, please?" "All right, thank you. Now, then, an insurance ticket?" "Sorry to say we have none left." "Indeed! why, then, I must go without one, W. R. will be as valuable to his family while alive as ever, but not so valuable to them as he might have been should the Great Western kill him." Ticket for Yatton! It is twenty-three years since I took a similar ticket. I remember the little station well, the scent of flowers hung about it from the pretty beds among the gravel. I arrived there even before my college days—it was my first start in life—the first leaving the parental



nest, when the fond and family christian name was no more heard by me, and the cold Mr. was in its place.

Full of these thoughts I pass Bath the beautiful, and then, not very long afterwards, Bristol the bustling. Catching a glimpse, after Bristol smoke (choking, horrible it is), has been passed, of that fairy-like work, the Clifton Suspension Bridge, if not the finest bridge in the world, its situation is certainly second to none. Soon I arrived at Yatton, and there on the same side, in the same place where I had been met twenty-three years ago, sat my friend Mr. Rodbard. After a hearty greeting, we are soon driving through Yatton village, with its old church and stump tower, a sort of miniature St. Mary's Redcliffe. We diverge to the left to visit, on our way to Aldwick Court, some chickens which are being brought up at a cottage. We turn down a narrow lane, with those large orchards here and there, which make one feel at once to be in Somersetshire. By-the-way, an orchard country is a good one for poultry, as orchards give both grass runs, always available, not being mown, and also abundance of shade. Somersetshire cottages are still, as of yore, poor places, though occasionally picturesque-looking. We pull up at one, and a girl with a west-of-England face comes to hold our horse, but back she starts, as if afraid. On seeing her fear, her mother, with true motherly feeling, took the reins from her hand. We enter an odd place—the roof of the cottage had been lengthened, and a slight edifice added on, open, however, at the gable. This afforded a space light and dry for the chickens to run into in case of wet, and it was a good place for feeding. There sat the hens, and in, upon hearing our footsteps, scrambled, as if to show themselves, a number of Partridge Cochins of various ages. But let me not forget the old lady who was their care-taker, and very careful she seemed of them, and not a little proud of them, pointing out eagerly the best birds according to her judgment. Poor old woman! once she was tall and straight, perhaps she had been upright as a willow wand, and graceful too; but now she was bent double, though, happily, there was little trace of feebleness in her countenance. Poor thing! she reminded me of Wordsworth's "Cumberland Beggar," for

"On the ground

Her eyes are turned, and, as she moves along,  
They move along the ground. One little span of earth  
Is all her prospect. Thus from day to day,  
Bow-bent, her eyes for ever on the ground."

Yet let me waste no pity upon her, she seemed happy enough, and the Providence that tempers the wind to the shorn lamb gave her pleasures all her own, in spite of bodily infirmity. Passing through this elongated cottage, we entered the old body's orchard, and I admired, with admiration unfeigned, many promising Partridge cockerels and pullets. A fine strain, a very fine strain, is yours, Mr. Rodbard. We take our leave of the old woman. By-the-way, many such an old body has reason to bless the love of poultry which prevails now-a-days in England, as it adds many a comfort to their slender stores.

Again we are threading the narrow lane, and now we return to the main road. On our right, Congersbury spire, in the heart of the rich valley, glitters through the trees. Now, straight on for Wrington. I cannot forbear turning my eyes westward, for there across the valley stand the beautiful Mendip Hills, not bleak and bare as are northern hills, but their sides covered with verdure, and in some instances the enclosures run almost to the top.

Beautiful Mendips! the first hills I ever saw! for I came straight from flat Cambridgeshire, when a mere youth, to Somerset, and my eyes were enchanted with the Mendips. I recollect scarce being able to dress the first morning (at any rate it was a lengthened toilet), from the admiration with which I paused and gazed upon the gently swelling hills, those lines of beauty; and although, since those days, I have looked upon the Grampians year after year, and gazed upon our lake mountains week after week, yet my first hill love is the strongest. I compare all hills with the Mendips. But, we are at Wrington, which is a kind of village metropolis to the surrounding district. Here was born John Locke the philosopher, and a tablet marks the spot, while a monument in the church perpetuates his memory. Nor is this the only literary honour of which Wrington has to boast, for close by lived for many years Hannah More, a good woman who did a noble work in her day and generation. There to the left was her residence, Barley Wood by name. Bishops, nobles, statesmen (among them good Mr. Wilberforce), clergymen, ladies innumerable here visited Mrs. More in her thatch-covered picturesque cottage.

We drive on, chatting pleasantly, albeit the dust is terrible;

I feel to be taking snuff upon compulsion every minute, and that not of the best kind. A pull on for two miles or so, and Aldwick Court is before us, standing on the spur of a hill pared flat to receive it. By the way, that small thatched cottage to our right was Hannah More's home before she grew rich enough to tenant Barley Wood. Pretty Cowslip Lodge! here the authoress planned many of her works, and, better still, carried out her plans. From yonder gate she sallied, with thick shoes on, to persuade the thicker heads of the poor to let her have their children on a Sunday to teach.

A little further on, a gate, a lodge to the left of it, a short avenue, then ivy-covered stables to the left, then a square of bright gravel, and we are in front of the pretty mansion, yeelp Aldwick Court. One side of the house looks up the valley and takes in a view of the sea, breaking on the coast at Weston, and on a clear day the Steep Holmes island is visible, and also the Welsh hills. The other side takes in the Mendip range. Behind is a thick wood, coming up to the very house without even a dividing fence. Sunny, airy, bright, pleasant Aldwick! and better than all, it has such an English-home look about it. To-morrow morning I am to see the renowned poultry, so let me enter the hospitable door in haste, for in half an hour dinner will be ready. The hall is filled with cases of stuffed birds and smaller animals, some in pairs, others in groups. Surely these and old oak furniture are a hall's best ornaments. I linger round the cases, noting this bird and that; I am then shown a painting in oils of the first Spanish cock possessed by Mr. Rodbard—his first prizetaker, ancestor of a fine and fortunate race. The dressing-bell rings, and I obey its summons, and I more gladly obeyed the summons of that eating-and-drinking-inviting bell which rang twenty minutes later.

Dinner! how welcome after hours of dusty travelling—welcome cool dining-room, welcome the pleasant talk, and welcome Somersetshire eider. Now, during dinner, in spite of the fair ladies, in spite of interesting talk, in spite of the good pictures on the walls, in spite of all and everything, my eyes would wander to the sideboard, on which stood an almost innumerable host of silver cups of various sizes and shapes, not one alike. What was going to happen? Were the haymakers coming in to quaff eider from out of these cups? Was it the Queen's birthday? No. Was some haechanalian Somersetshire festival to be celebrated? Well, I knew not. I was sure in that well-bred household nothing wrong could occur—that was my comfort. But, oh! these cups. Time proceeded, the ladies retired, the cool claret was moistening my lips, but curiosity was uppermost, and I approached that glittering sideboard. "Whatever are these?" said I. "Only my poultry prizes," was the reply. "Poultry prizes! why here are the contents of a Milsom Street silversmith's shop!" I counted the prizes, they numbered about fifty. Silver salvers at the back, then cups of all kinds and grades—tall cups, short cups, slender cups, fat cups, plain cups, embossed cups, Grecian-shaped, Roman, mediæval, all shapes; cups with covers, tankard-like, cups without, and with inscriptions on each and all. Then there was a grand muffinier (that bird was not a muff that won it), also silver asparagus tongs, cream jug, and—and I know not what else. As the new servant girl, a very young one, said to her mother, after seeing the dinner-table laid out in the dining-room the first day of her service, "Lor me! mother, my eyes was right dazzled." Among the cups lay also, like nest eggs, a number of medals from Birmingham and other shows. Well, poultry fanciers, if successful, have something to exhibit to their friends worth showing.

After a pleasant evening stroll among the haymakers, and raising my eyes ever and anon to watch the shadows on the lovely Mendips, I retired to rest, and dreamed I was a Spanish don, with something odd about my ears, which were very white—then that a great number of medals were hung on my breast for distinguished service—then that I was keeping a silversmith's shop—then I was buying cases of stuffed birds—then I was reading Hannah More's "Life" and tracts—and then I dreamed that I was the real shepherd of Salisbury Plain—and then I awoke and found that I was the real—WILTSHIRE RECTOR.

(To be continued.)

## BELFAST POULTRY SHOW.

(From a Correspondent.)

THE above Show took place on the 6th and 7th inst. and met with more than usual success. The weather with the exception of a few



smart showers was all that could be desired. The Belfast Committee give a ten-guinea challenge cup to the exhibitor who obtains the greatest number of first prizes, the cup having to be won three years in succession before it becomes the property of the winner. This cup has proved such an inducement that it brought the best collection of poultry together that has ever been witnessed in Ireland. Last year the cup was won by Mr. Beldon, of Yorkshire, who beat Mr. Boyle of Dublin, by a single point, and the same two exhibitors again tried their strength this year, but the Yorkshireman proved too much for his opponent, being the winner by two points; but it certainly is highly creditable to Mr. Boyle when it is considered that he only exhibited fifteen pens to his opponent's twenty-five. Mr. Beldon has but to be once more successful to win the cup.

Of the various breeds first on the list came *Dorkings*, all the prizes going to Silver-Greys. The cock in the first-prize pen was a really fine bird. In *Dorking* chickens there was only a moderate display. In single *Dorking* cocks the quality was only moderate. Next came the *Spanish*. Here Mr. Beldon was an easy first with a pen shown in beautiful condition, and with fine pure faces; but they should have been larger. Mr. Boyle's third-prize pen, I thought, was much better than the second. In *Spanish* chickens Mr. Boyle was first with the best pen of youngsters that I have seen this season. In single *Spanish* cocks Mr. Beldon was again successful with a very fair specimen. In *Spanish* hens Mr. Boyle won with a really fine pair.

Next came the *Cochin-Chins*, in which all colours competed together; the first prize went to a pen of Partridge-coloured, the second prize went to a middling pen of Buffs, the third went to a splendid pen of Whites. The *Drachmans* afforded another triumph to Mr. Boyle's yard, this gentleman winning both first prizes with splendid birds. His first-prize pen contained the best pair of hens I remember to have seen. The shape was equal to the best *Cochins*, and the pencilling the best I ever saw, the cock was a beautiful bird in size, purity of feather, and magnificent condition; the bird was perfection. Then came that beautiful variety the *Hamburghs*, these classes afforded easy triumphs for Mr. Beldon, that gentleman taking all the prizes. The *Came* was very indifferent; the class in my opinion did not contain a single good pen; the same may be said of the single cock class. In *Game Bantams* Mr. Boyle was first with a remarkably small pen. In *Bantams*, any other variety, Gold and Silver Sebrights took first and second. There were three classes of *Polands*; here again Mr. Beldon won the first in a very easy manner. There was also a class for the best six chickens for the table, Mr. R. P. Williams took first with *Dorkings*.

Next on the list came *Turkeys*; here Mr. Zurborst was more fortunate, winning the first prize with large good birds. In *Geese* Mr. Boyle was unapproachable, winning first and second with birds of large size. In *Aylesbury Ducks* Mr. Boyle was first, hard pressed by Mr. Williams; the latter gentleman, however, made up for it in young *Aylesburies*.

**DORKINGS.**—First, F. H. Lewis, Nettlefield, Belfast. Second and Third, Col. Leslie, Glasslough. Highly Commended, W. C. Seymour-Hill, Dunmory. **CHICKENS.**—First, W. C. Seymour-Hill. Second and Third, Col. Leslie. **COCK.**—First, J. Borthwick, Prospect, Carrickfergus. Second, F. H. Lewis. Highly Commended, R. P. Williams, Clontarf, Dublin. **HENS.**—First and Second, F. H. Lewis. Highly Commended, Col. Leslie.

**SPANISH.**—First, H. Beldon, Gilstead, Binsley, York. Second, C. E. McClintock. Third, R. W. Boyle, Galtrim House, Bray. Highly Commended, R. P. Williams. **CHICKENS.**—First, R. W. Boyle. Second, C. E. McClintock. Third, R. P. Williams. **COCK.**—First, H. Beldon. Second, R. W. Boyle. **HENS.**—First, R. W. Boyle. Second, F. Lewis.

**COCHIN-CHINA** (Any colour).—First, F. Lewis. Second, H. Beldon. Third and Highly Commended, F. W. Zurborst, Belville, Donnybrook. **HENS.**—First and Second, F. Lewis. Highly Commended, F. W. Zurborst.

**BRAHMA POOTRA.**—First and Third, R. W. Boyle. Second, H. Beldon. Highly Commended, H. Hawkins, Sydenham, Belfast. **HENS.**—First, R. W. Boyle. Second, F. Lewis.

**HAMBURGH** (Silver-spangled).—First and Second, H. Beldon. Third, R. W. Boyle. Highly Commended, F. Lewis.

**HAMBURGH** (Silver-pencilled).—First and Second, H. Beldon. Third, F. Lewis. Highly Commended, H. Hawkins.

**HAMBURGH** (Golden-spangled).—First and Second, H. Beldon. Third, F. Lewis.

**HAMBURGH** (Golden-pencilled).—First and Second, H. Beldon. Third and Commended, F. Lewis.

**GAME** (Any colour).—First, H. Beldon. Second, F. Lewis. Third, C. E. McClintock. Commended, C. Peacock.

**GAME** (Single cock).—First, C. Peacock. Second, H. Beldon. Commended, F. Lewis.

**GAME BANTAMS.**—First, R. W. Boyle. Second, H. Beldon. Commended, F. Lewis.

**BANTAMS** (Any other breed).—First and Second, F. Lewis.

**POLANDS** (White-breasted).—First, H. Beldon. Second, F. Lewis. Third, G. Martin, Glenview, Belfast.

**POLANDS** (Silver-spangled).—First and Highly Commended, H. Beldon. Second, F. Lewis. Third, R. P. Williams.

**POLANDS** (Golden-spangled).—First and Third, H. Beldon. Second, F. Lewis. Highly Commended, R. P. Williams.

**BEST SIX CHICKENS SUITABLE FOR THE TABLE.**—First, R. P. Williams. Second, C. E. McClintock.

**TURKEYS.**—First, F. W. Zurborst. Second, R. McHaffy.

**GEES.**—First and Second, R. W. Boyle.

**DUCKS** (Aylesbury).—First, R. W. Boyle. Second, R. P. Williams. Third, J. Wilson.

**DUCKINGS** (Aylesbury).—First, R. P. Williams. Second, R. W. Boyle. Third, W. C. Seymour.

**DUCKS** (Rouen).—First, G. Martin. Second, R. W. Boyle. Third, H. Beldon. Commended, J. Dickson.

**DUCKINGS** (Rouen).—First, R. W. Boyle. Second, R. P. Williams.

The names of the Judges did not transpire.

[We are obliged to our correspondent for his communication; but we have omitted all the laudation and vituperation, because too apparently coming from friendly bias towards one of the exhibitors.—Eds.]

## BEE-HOUSE—APIARIAN'S VEIL.

ANSWERS to the following questions in THE JOURNAL OF HORTICULTURE will oblige. My bee-shed is 6 feet 8 inches high at back, and 5 feet in front, with a width of 5 feet from front to back, and 6 yards long. I want more room: will it be better to double the length of the shed, or have outer covers made for the hives? The latter will be by far the most expensive plan. My present shed is closed only at the back, and in hot weather I have an opening of a foot the whole length. If the shed be best, should there be any partition between the hives, such as a thin board on edge? What distance should there be between the hives? In the case of nucleus-boxes would it be desirable to place some distinguishing mark in front, say some decided colour, until the queen is fecundated? If my hives are all brought to one form there will be much sameness for returning bees. How do you prepare rags or paper for smoking bees? I have used brown paper steeped in a weak solution of saltpetre. Do you usually take advantage of a guard for the face? What is best? I do not care much about my hands, cats in gloves, &c. Hitherto I have used nothing. In looking for queens I want to have a clear vision.—E. B.

[We think you cannot do better than double the length of your present bee-house. At the same time it will be well to keep the hives as far apart as possible (say, if practicable, not less than 3 feet), and it will also be advisable to vary the appearance of neighbouring entrances as much as you can by diversifying them both in shape and colour. We do not deem it necessary to interpose any partition between the hives unless the bees themselves should prove it to be so by travelling from one hive to another. Whenever we find it convenient to use a little smoke we charge our fumigator with cellar fungus, and protect our face when necessary by means of a bag of black net, of a taper form, put on over the hat, and buttoned under the coat. Gloves we very seldom require, but photographer's indiarubber ones are by far the best.]

## FORMING STOCKS FROM CONDEMNED BEES.

A BEE-KEEPER in my neighbourhood who keeps to the old-fashioned mode of destroying the bees for the honey, has offered me the bees this autumn if I can take them by any other process, he being the recipient of the honey of course. Would you kindly tell me in your next impression how to go about it, whether, should I succeed, it would answer my purpose, and what food to give them during winter? I am thinking of building a house of my own after the fashion of a successful apiarian here, with boxes attached to one another, but with communications between them to allow of artificial swarming, &c., and supers or bell-glasses to each, &c. Can the bees be at once placed in them? They will be perfectly protected from frost and cold. Can the old combs be saved in the abstraction of honey, and will they be useful in the boxes? Or, again, had I better winter this lot in straw hives, and wait until the spring before I put them in the box-house? Whose is the best book for a bee-keeper who wants to study the art deeply?—W. C. D. Calverton.

[We drive condemned bees into common hives in the way described by Mr. Woodbury, in page 423, of Vol. V., bring them home in the same, and transfer them to frame-hives the next morning by knocking them out on the top of the exposed frames, having previously removed the crown-board and deepened the hive about an inch by a square frame of that depth and the same diameter as the hive laid on the top. This prevents crushing the bees when the crown-board is replaced, which should be done almost instantaneously after the cluster is knocked out and before it has time to spread. One or two more swarms should be added to each hive in the same way a few days afterwards, and the stocks fed\* up to from 16 lbs. to

\* Lump sugar and water in the proportion of 3 lbs. of sugar to 2 lbs. of water, is a cheap food and will answer the purpose.



20 lbs. nett weight each before winter sets in, at a cost of about 10s. to 12s. a-piece for sugar. Any portions of worker comb which are found empty and in good condition may, probably, be purchased for a trifle if not given to you, and will be a great assistance to the bees if attached to the bars in the way described in page 18, of the fifth edition of "Bee-keeping for the Many" (price 4d., or free by post from this office for five stamps). If the combs be new, all artificial supports may be removed within two days; if old, a day or two longer will be required. The best bee-house for one who wishes to study the subject deeply, is either a verandah or a similar construction built against a wall, either perfectly open or merely closed with phœasant wire (in which is a good-sized aperture opposite the entrance to each hive), in front, and with sufficient height and room to operate behind; whilst the best hives are those which have been named after Mr. Woodbury, and which are fully described in page 14 of the same edition, of "Bee-keeping for the Many." We prefer them made of straw, in which material Messrs. Neighbour, 119, Regent Street, and 127, Holborn, turn them out in first-rate style. These gentlemen will also supply you with Mr. Langstroth's book, which is the best work we are acquainted with for the purpose you require.]

### FERTILE WORKERS.

YOUR correspondent Mr. Wm. Carr need not be at all sceptical as to the existence of fertile workers, neither do I believe are they of such rare occurrence as our Editors would seem to suppose, having met with three separate instances this summer, and had them under my observation at the same time. I must say I rather entertain the idea that at certain seasons, and under particular circumstances, workers may be induced to become fertile as a matter of course, and I have no doubt that many cases of drone-production ascribed to virgin queens are all the while due to fertile workers.

The first case was that of a queenless stock presented me by a friend, and, on breaking it up, I discovered drone brood in worker cells, and in all stages of development, and which I have not a doubt was produced by workers. The other instances occurred in two of my earliest batch of nuclei—these failed to raise royal cells. In the one instance within a fortnight, before a queen could have been raised, or indeed ere the latest brood were much more than half matured, I was struck at noticing a good many eggs deposited in the cells, and rather hastily concluded that my assistant, to whom I had entrusted the peopling of the box, had stupidly run off the queen along with the workers at the out-lying apiary. A thorough search failed to show her, while a subsequent examination of the stock afforded ample proof of her most productive presence—whence the eggs? A subsequent minute examination not only revealed eggs in the cells, but many, even up to six, deposited in a single cell. By way of experiment I allowed matters to take their course, and the other day along with a most experienced apiarian friend, took a survey of the box—found egg-laying going on and a good many drones at liberty; it was most interesting to note, that both the older blacks, as well as their more youthful Italian sisters, had alike the power to produce the males of their distinct varieties.

The brood in the other nucleus, above referred to, was all hatched out and yet no fertile workers. Feeling confident from what I had seen in the other case, that I had merely to withhold the material to raise another monarch, and I could as it were compel them to become fertile, it was even so, and the drones have since been duly hatched.

I may here relate, as not altogether foreign to the subject, a curious coincidence which I met with in the early part of the present season—viz., the simultaneous issue in every flight of young bees from a stock possessing a black queen, not only attendance of her sable progeny, but a goodly proportion of splendidly marked Italians. There was no mistaking it, there they were rotating side by side on the landing-board, and commingling in their merry gambols, marking the site on their first flight of their common home. How could this be? I put forth my riddle to many apiarian friends, and was not a little tickled at the many "guesses at truth" which came to hand.

To appreciate my riddle, I must go more into detail. The hive was a common straw one, a "second" of last season, from which I had expelled the black bees to make way for my old Devon queen and her train, after having been purified from foul brood through the double "purgatorial process." What

black brood existed in the hive at the transference was duly hatched, followed by lots of young Italians. Winter came; it was half over, when one day I had the mortification to find my valued monarch lying dead upon the landing-board. It was the 8th of March before I met with a spare black queen to take her place. In the interim, during mild days, when airing, the bees got into no agitation, as I had anticipated, on missing their queen. Pollen was carried liberally, and young Italians issued till I at last began to suppose, like Jonas Jackson, that I had taken a distended defunct worker for my valued monarch; this could not be, I knew her too well. By-and-by the offspring of the black queen emerged in abundance, invariably escorted in every instance by their glittering Italian sisters. I was non-plussed and sought advice.

A valued contributor of this Journal suggested a strain of Ligurian blood in the black queen. This could not be: her progeny in the stranger hive from which I removed her were, equally with her more youthful offspring, free from the slightest tinge, indeed as thoroughly black bees as I had ever seen. The "old-fashioned bee master" from whom I procured her prided himself on the blackness of his stock; besides, these fine-marked yellow jackets were emerging regularly before she was introduced. Another correspondent suggested they were late-bred bees, while I was sure they were fresh from the cell; and another was confident they were young Italians from an adjoining stock, or eggs carried from such—I know I saw them take their first flight; besides, unfortunately for me, I had no stock in my apiary capable of producing young bees at all up to the brilliancy of my old queens. I puzzled my correspondents—I equally puzzled myself.

Latterly, every other explanation failing, could it be possible they owed their origin to the existence of fertile workers? but then I was reminded they only produce males. Nature had endowed them with this power surely as a preliminary to a higher end, otherwise their drone-production could in no wise save their extinction. Might it not be that the long confinement of their queen had induced some of her progeny, as in the above cases, to become fertile, and on a par with virgin queens? that the performance of the maternal duties so far might incite the desire to go forth to seek the drones, who at that period abounded, thereby becoming converted into worker queens and save stocks so situated from impending ruin? In a spirit of rivalry might they not have risen in rebellion and destroyed the old queen, their new powers satisfactorily accounting for their strange quiescence? My pretty little theory was gradually abandoned with the decreasing numbers of the young Italians, till the new hypothesis was forced upon me as the only solution of the mystery, that the extreme fertility of my old queen had so far overshot the number of her followers, that she had dropped eggs into cells far in advance of their ability to attend to, that these had been preserved from chill by the genial warmth of the hive, and with the increasing temperature of the advancing season were gradually overtaken and hatched out.

Possibly some reader may be able to afford a clue to the better elucidation of what for many weeks proved to be one of the most singular and striking phenomena ever met with by—  
A RENFREWSHIRE BEE-KEEPER.

### EXPERIMENTING WITH LIGURIANS.

The following is extracted from the apiarian journal of a clergyman in one of the northern counties of England:—

June 3rd.—Received a stock of Ligurians from the apiary of Mr. Woodbury. Took out all the frames in order to remove the strips of wood. Succeeded well until I came to the last frame, which slipped to the ground; soon re-adjusted without much damage; did not get a sting worth mentioning, and saw the queen. Saw a Ligurian on the alighting-board of uncomb hive dressing a young bee; both went into the hive quite pleasantly.

June 14th.—Beautiful hot day. Examined my Ligurian hive, and was much pleased to find that the bees had filled the two empty frames in a few days. Found the queen on the first frame I lifted out, and at once resolved to form an artificial swarm. I did so by putting two frames from the middle of the hive into the nucleus box. Removed Ligurian hive for fifteen minutes and put nucleus box in its place. At night placed nucleus box in apiary next to the Ligurian stock. They had been in the dark several hours. Supplied empty space in Ligurian by a brood comb from a Taylor's bar hive. It did not



seem to have much sealed brood, but there were several drone cells. Gross weight of Ligurian stock after the above operation, including floor-board, 36 lbs.

June 15th.—8 A.M.—Went to see my nucleus box place a yard from Ligurian stock. The bees did not seem in any hurry to leave the box, but, as I had feared, scarcely one of those leaving returned up to 1 P.M.; doubtless they would return to parent hive. Towards noon could see a difference in their conduct. The bees ran up to and touched each other, as if to communicate something. Could not resist a peep into the box, and found a busy scene. The bees were busy and had built four small pieces of comb. During the afternoon swept the bees from another brood comb into the nucleus box. Saw common drones in the Ligurian, probably from the comb put in yesterday. They had already begun to work well from the empty frame put in yesterday.

June 17th.—Hottest day we have had; temperature 80° in apiary. Examined nucleus, and hardly fancied there were sufficient bees. Could find no signs of preparation for a queen. Began to be dubious. Determined to add another brood comb. Found the queen on the sixth frame with eggs; remove her with a feather, and place comb in box. Also brush bees from another comb into box. Feel more comfortable after. This makes three frames taken from the Ligurian stock, besides the young bees swept from two other combs. Notwithstanding this rough treatment the Ligurian stock weighs 42 lbs.—viz., 6 lbs. increase in three days. Find the handling of frames rather delicate work, and calculated to make one nervous; the very slightest breathing excites the bees.

June 19th, Monday.—Ligurian stock 47 lbs.—viz., 11 lbs. increase in five days. Nucleus box, found two queen cells, but not yet sealed. They were on the frames first put in. This the sixth day. Felt some measure of satisfaction.

June 21st, Wednesday.—Nucleus-box: Put in a brood comb from a Taylor's bar, the result of an accident. How convenient these compound Woodbury frames are!

June 22nd, Thursday.—Nucleus-box: One queen-cell approaching completion; the other the same as before. The third frame, put in on the 17th, does not contain so many eggs as I had thought. Begin to doubt the desirability of putting in any fresh frames until full preparation had been made for the queen.

June 24th, Saturday.—Examine box, and find royal cell quite sealed and beautiful: only one, however, as no further progress has been made with the second. Form another nucleus-box. Commenced at 2 P.M., and found that I had this time caught a Tartar. Day rather gloomy, and a little wind from the north. The hive was one moving mass. For better light took the frames outside, and fancy the wind blowing on them must have excited them. Determine to proceed, although it is Saturday. Found my lady on the eighth frame, and felt thankful. All doubt about Ligurians stinging is now at an end, as I had half a dozen stings on my head and face. Put two well-filled frames in box No. 2; also a third frame with a little comb. Took a third frame from Ligurian stock beautifully filled with honey—5 lbs. Nett weight taken away, 10 lbs. Weight before operations, 52 lbs.—i.e., 16 lbs. increase in ten days, besides losing a brood-comb on the 17th. Weight after operation, 41 lbs.

June 25th, Sunday Evening.—Put box No. 2 in apiary, having had it in the dark since yesterday evening.

June 26th, Monday.—Ligurian, 43 lbs.

June 27th, Tuesday.—To my utter astonishment the Ligurians swarmed. Weight of swarm, 3 lbs. Weighed Ligurian stock at once, and found it to be 40 lbs.—i.e., just 3 lbs. lighter. Nucleus-box No. 1: Found a queen-cell on the comb last put in on the 17th. Tried bottle-feeder, made out of a pickle-jar, on box No. 2; answers well.

June 29th, Thursday.—Gross weight of Ligurian swarm, 20 lbs.

June 30th, Friday.—Examine box 1, and find the first queen-cell just vacated; the queen quite close to cell, and her wings not yet expanded well. Will there be piping? listened at night, but heard none. The other cell sealed sixteenth day. Ligurian stock, 42 lbs.

July 1st.—Got severely stung by Ligurians by removing cover too soon after unscrewing it. The hive had not been steady, so that they had been shaken. How interesting always to get stung on a Saturday!—nice preparation for Sunday! Box No. 1: Found second queen-cell empty; she must have been disposed of by her rival. For first time examined box No. 2. Three queen-cells sealed seventh day.

July 3rd, Monday.—Nucleus-box No. 2: Saw queen-cells all right.

July 4th, Tuesday.—Ligurian stock, 48 lbs.

July 5th, Wednesday.—Took about one-third of bees and frames, with one queen-cell, from Ligurian stock. Only one queen-cell left in the hive. Neither of them sealed eighth day from swarming. Examined natural swarm from Ligurian; found queen on the very last frame. Eighth day swarm weighed 26 lbs., as against 20 lbs. six days since. Took queen from a second east of black bees, with a view to putting in one of the sealed queens out of box No. 2. Put the captive queen, after much consideration, into the Taylor's bar-hive, which swarmed on Saturday last.

July 6th, Thursday.—Transferred a comb from the deprived hive to box No. 2, with a view to putting in a sealed queen. To my great grief and astonishment found all the cells open! only the twelfth day from the forming of the nucleus box: Cannot understand it. Thunderstorm with rain in the evening.

July 7th, Friday.—Dull rainy day for the most part.

July 8th, Saturday.—Morning dull, but bees flying much in the afternoon. The weather cooler, and do not deem it expedient to examine hives. Still feel anxious about my queen cells being open so soon. Query, Is it possible that the queen from box No. 1 can have mistaken her home, got into box No. 2, and rifled the queen cells? The boxes are exactly alike in all respects, and present the same outward appearance, but they are at least 3 yards asunder.—E. B.

[We never heard queens pipe in a nucleus, owing, probably, to no opposition being made under these circumstances to their destroying the remaining royal cells, which they proceed to do in an incredibly short time after they are themselves hatched. We consider one brood-comb \* sufficient in each nucleus box at first. When this has hatched out, and before the young queen has commenced egg-laying, then, and not till then, a second may be advantageously introduced. The population at the outset is usually far too scanty to cover more than one brood-comb properly. Superfluous royal cells should be utilised by being transferred to other nuclei on the ninth or tenth day, as they sometimes hatch out so early as the eleventh, although we have known them delayed until the twentieth day. The young black queen transferred on the 5th of July would, if unimpregnated, be very likely to return to her old hive, and would in this case at once destroy the inserted royal cell.]

## FLOOR-BOARDS—FEEDING-HOLE.

THE floor-board three-quarter-inch thick, under a hive was firmly nailed to a pedestal. The floor-board is now beginning to warp and crack. When will be the best time to put a new one in the place of it? and how must I proceed? Would it be a good plan to cut a hole in the top of the hive through which to feed the bees with a bottle or pan in the autumn and spring, and to let out the moisture? If so, would it not be best done soon, and what size should the hole be?—A. R.

[Your new floor-board should be 1½-inch thick, and keyed to prevent warping. As soon as it is finished let some one raise the hive gently at dusk some cool evening and slip the new board under it. A hole of from 2 to 3 inches diameter for feeding, &c., may be cut at once.]

\* This brood-comb should, however, have either an empty comb or a honeycomb on each side of it.

## OUR LETTER BOX.

AYLESBURY DUCKS (J. C. Hose).—We have made inquiries; and think that you will be quite safe in breeding from the Ducks, though one of the eleven has a dark patch of brown feathers, for this proves no more than that some generations ago there may have been a Ronen cross. Do not breed from the Duck having the brown patch.

PAYNE'S COTTAGER'S HIVE (M. A. Williamson).—Your Payne's hive will not require the straw cap if stocked so late in the season as this. The hole in the top should be closed by laying on it the loose round straw mat, without interposing an adapter, which should be used only when a super is put on; the bees will fasten the cover in their own way. Bees frequently appear unwilling to work in glasses; there is, therefore, nothing extraordinary in one of your stocks refusing to do so. The glass should be taken off when seen to be filled, and the combs severed by means of a fine wire drawn across under the glass, or under the adapter if there be one. The bees may be got rid of in the manner described in our reply to "Squire" in page 46.



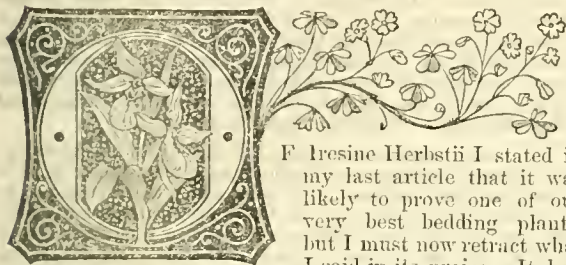
## WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 25—31, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	s.	
25	Tu	St. Jas. DUCHESS OF CAMB. BORN.	73.8	49.4	61.6	10	15	41	57	47	25	47	44	48	3	6	13	206
26	W	Pennyroyal flowers. [1797.	73.5	50.6	62.0	18	17	4	56	7	30	8	9	9	4	6	13	207
27	Th	Water Dropwort flowers.	74.6	51.3	62.9	17	18	4	54	7	34	9	30	9	5	6	13	208
28	F	Wild Tensel flowers.	76.2	51.4	63.8	19	20	4	53	7	37	10	53	9	6	6	12	209
29	S	Fennel flowers.	75.8	50.8	63.3	16	21	4	51	7	49	11	16	10	7	6	10	210
30	SUN	7 SUNDAY AFTER TRINITY.	75.1	50.4	62.7	16	22	4	50	7	after.	43	10		9	6	8	211
31	M	Flax flowers.	75.0	50.6	62.8	14	24	4	48	7	41	1	14	11	9	6	6	212

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 74.9°, and its night temperature 50.6°. The greatest heat was 92°, on the 25th, 1844; and the lowest cold, 35°, on the 30th, 1863. The greatest fall of rain was 1.33 inch.

## PROPAGATING AND AFTER-MANAGEMENT OF BEDDING AND OTHER PLANTS.

(Continued from page 443.)



Fresine Herbstii I stated in my last article that it was likely to prove one of our very best bedding plants, but I must now retract what I said in its praise. It had

then all the appearance of being a really good plant for bedding purposes, and promised to far surpass the *Amaranthus*, but the excessively hot and dry weather we have had since has proved it to be quite unfit for the decoration of the flower garden. The beautiful crimson appearance it had in the spring has given place to a dirty brown, whilst the *Amaranthus* is one of the most beautiful objects we have here this season.

If managed in the following way the *Amaranthus melancholicus ruber* cannot fail to give every satisfaction. The seed should be sown about the third week in April on a moderate hotbed, and as soon as the young plants have made the second set of leaves, they should be pricked off into boxes filled with a good rich soil. They may be pricked out in the boxes nearly as thickly as they can stand together; then place them in a close frame for a few days, when they will soon emit fresh roots and start growing very freely. They should then have the benefit of all the air that can be given them for the purpose of hardening them off. By this time there will be spare frames, into which they should be pricked out; about 3 inches of good soil should be placed in these, and the plants should then be carefully turned out of the boxes, taking care to disentangle the roots without injury. The plants should then be pricked out into the frames about 2 or 3 inches apart. If there is plenty of partly decayed leaves at hand, put 6 or 8 inches of them into the bottom of the frames before putting the soil in. This will give a little heat to start them into growth. As each light is filled water with a fine rose and shut them up; they should be kept close for a few days, and if the weather is bright must be shaded. Syringe them every afternoon just before the sun is off the frames, and shut them up closely. Continue this treatment for ten days or a fortnight, by which time the plants will be well established, when they should be gradually hardened off, leaving the lights off them altogether about the third week in May. By the first week in June they will be sufficiently hardened and may be planted out where they are wanted. They should not be planted out earlier than the first week in June, unless the weather is very favourable and the situation where they are to be planted is a sheltered one.

Here a large bed of *Amaranthus*, with an edging of

*Viola cornuta*, is one of the finest objects I have ever seen; it lights up every bed near it, and when seen at a distance, when the sun is shining on it, the effect is grand in the extreme. This *Violet* is perfectly hardy, and will, I think, prove one of the most useful plants for edging we have; it is of a shade of colour we are very short of amongst the numerous plants suitable for bedding purposes—it is a beautiful violet-shaded mauve. It flowers very freely all through the summer and autumn months—in fact it is seldom out of bloom summer or winter. In damp soils it grows very freely; it will, therefore, want frequently pegging down, and some of the young growths will have to be pinched out. The plants should be divided in the spring, and pricked out in beds; or they may be planted out at once around the margins of the beds where they are intended to remain during the following summer.

*Verbena Velvet Cushion*.—A large bed of this, edged with *Geranium Manglesii*, is truly a magnificent sight. This *Verbena* I consider one of the most beautiful plants we have for flower-garden decoration. It is a hybrid I succeeded in producing several years ago from the old *Verbena venosa*, crossed with some of the garden varieties. This was, I believe, the first hybrid *Verbena* ever so obtained from *venosa*. I was several years before I succeeded in ripening seed, and it took several years more to establish the plant. The first year it grew very weakly, and I had almost given up all hopes of ever having it sufficiently strong to propagate from, but now it grows with vigour. This has originated quite a new strain of *Verbenas*. I have them now in a great variety of colouring. Amongst the most beautiful of my last year's seedlings is one I have named *Scarlet Cushion*. This does not grow more than 5 or 6 inches high, and produces immense trusses of bright scarlet flowers, of wonderful substance for so small a plant.

These varieties will become great favourites with the public as soon as they become better known, and the treatment they require understood, as they are such small-growing plants. The soil most suitable for them is a very rich one. When the beds or borders in which they are to be planted are prepared in the spring, a thick coat of well-decomposed manure should be spread over the beds, which should be dug two spits deep, and the manure placed in the bottom. This will encourage the roots to go down in search of the manure. The sun does not then affect them; and, as they are free-rooting plants, it causes them to throw up a constant succession of young growths from the base of the plant all through the summer, and up to the latest period in the autumn. They do not trail along the ground like the garden varieties; neither do they emit roots as the young shoots come in contact with the ground. One of the greatest advantages which they have over the other varieties, is that they retain their perfect, symmetrical form all through the season; whereas the others, by their habit of rooting as each joint comes in contact with the ground, are constantly spreading further from where the plant was first planted, leaving the centre quite bare. This propensity of the plant for rambling occasions constant trouble, and the use of almost innumerable pegs, where a large quantity of *Verbenas* are grown. The *Cushion*



varieties, of which Velvet Cushion is the type, do not require any pegs, and very little trouble to keep them in order all through the season, if the beds have been well prepared for them before they are planted. Cuttings do not very easily strike in the autumn; some of the old plants should, therefore, be taken up early in autumn, and all the old summer shoots cut away, leaving nothing but the young growths that have been lately made by the plant. They should then be potted into large 60-pots, and placed in a frame where there is a gentle bottom heat; keep them close for ten days or so, until they have made fresh roots, and as soon as the roots have taken good hold of the soil, place the plants in a cooler frame, and encourage root-action as much as possible, so as to have the plants thoroughly established in their pots before they are placed in their winter quarters. It is, perhaps, the best plan to strike a lot of cuttings very late in the spring, and box them off, and let them remain in boxes till August, when they should be trimmed and potted as described above. In the spring they should be repotted, and placed in a genial atmosphere, where they will grow very freely. Fresh free-growing cuttings of these will then strike as freely as those of the commonest kinds of *Verbenas*.—J. WILLS.

(To be continued.)

### ASPECTS, AND THEIR INFLUENCE.

EVERY garden ought to be sheltered from exposed points of the compass by belts of trees at such a distance as to break the force of the winds, as well as protected by walls. I am aware that both these shelters are considered superfluous by some; but I know very well that the removal of trees does make vegetation later, and exposes it to the wind to such a degree that we are not able to view it after strong winds with that satisfaction which we always feel in the case of gardens protected by belts of trees and walls. "I am surprised to find how little damage had been done by the late high wind, which shook the buildings to their foundations!" is by no means an uncommon exclamation; "but the trees in the plantation are torn and battered, some have lost large arms, completely disfiguring them, others uprooted, &c." Hills and trees are Nature's shelters. The hills protect the valleys, the trees protect the shrubs, the shrubs the plants; the grass even shields the lovely Lilies, and the Fern the moss at its foot. "Trees create a confined atmosphere, harbour insects, and interfere with the growth of crops." Granted—what of the crops in a cold winter and spring? what of the fruit of trees in a windy season? Those who advocate open exposed situations for the growth of fruit and vegetable crops, only aim at cultivating the commoner kinds. I agree with them so far, but no farther. The plants which we chiefly cultivate in gardens are exotics, or, if not, are rendered so tender by improvement as to be equally or nearly as much in need of protection as if they were. More than this: we want crops early and late, we want to catch the sunbeams, and to retain them when we get them. In short, we want light, air, and warmth in gardens, but we want these without confinement, and equally without exposure. Shelter with openness is very different from shelter with overshadowing. Isolated trees, as hedgerow timber, are almost valueless, and are frequently situated where they will not give shelter but divert the force of the current in the direction of the point exposed. Were they planted in masses opposite the part sought to be sheltered it is certain they would serve the object in view, and become profitable after a while, which they rarely do when isolated. Besides, they are more ornamental in a mass, grow more rapidly, and consequently make a shelter sooner.

Few will deny that our climate is too cold for the majority of fruits to be grown in open situations; all agree that we need something to aid us in retaining the solar heat, and this, whatever it be, must absorb heat, and radiate it when the atmosphere becomes cold. Walls of brick have long been erected for this purpose, and they become heated sooner than stone, and also radiate the heat more rapidly. They have their evils, however, the chief one being that they do not constitute a sufficient protection against occasional severe spring frosts, and in very inclement seasons the fruit does not ripen well upon them. To remedy this defect glass coverings have been erected over the trees in some cases, and with good results, and latterly glass houses have been employed. I do not think that either walls, or glass houses without walls, fully answer the purpose for which they are intended, but both are good aids; the glass structure having the advantage over a wall in ripening

the fruit and wood during a wet season. A wall is certainly necessary to secure fruit of some kinds in our climate, whilst for others it must be covered with glass, or a glass house must be provided in order to have them in perfection, whilst some require not only glass structures, but artificial heat. It is foreign to my purpose, however, to enter into the merits of detached glass houses.

A garden walled all round, and having one face to any cardinal point, whatever it be, and all the others at right angles to it, will have four aspects—east, west, north, and south; it may also happen that the walls may not directly face any of the principal points of the compass, they may then be north-east, north-west, south-east, and south-west. I will take it for granted, however, that the position of the walls is met by one or other of the above cases, and will first deal with that in which the aspects are north, south, east, and west.

A south aspect is that wall on which, if you turn your back to it, the sun will be full in your face at twelve o'clock at noon. The other side of that wall is a north aspect, and so with an east and west aspect. An aspect is that side of a wall facing the point of the compass from which it derives its name.

The south wall or aspect receives the most light, absorbs the greatest heat, and is the best for the more tender fruit trees, and those required earlier than on aspects where they would otherwise do well. This wall is the only one suitable for Peaches, Nectarines, and also Apricots, to have them plentifully and with certainty. Apricots on east walls sometimes do fairly, but though the trees grow freely they are not to be depended on for a crop. A south wall enables the trees against it to ripen their fruit about a fortnight earlier than on an east wall. For earliness a tree or two of the early Cherries, as Early Purple Gean, and one or two of the May Duke, may be planted against south walls. For the same reason some early Plums may also be planted, as the *Précoce de Tours* now superseded by Early Favourite (Rivers), decidedly the best of the early Plums, July Green Gage or *Reine Claude Hâtive*, and Green Gage; likewise some of the early Pears, as *Doyenné d'Été*. Unless the walls are extensive it is not worth while occupying south walls with Pears, Plums, and Cherries. It is worthy of note that fruit grown on south walls is much earlier than that produced on any of the other aspects, and the juices being more highly elaborated the fruit is better flavoured though less juicy. The fruit on south walls comes in a fortnight earlier than that on east and west walls, and it is on this account that it is desirable to have fruit trees upon them that would do well on other aspects. Generally, however, south walls should be occupied by Peaches, Nectarines, Apricots, and Figs, which last are a precarious crop, and are best grown under glass. They do, however, sometimes bear well. Where there is much wall it is worthy of consideration whether a part might not be advantageously covered with glass on all the aspects, covering alike the wall and border, and growing bushes or pyramids in the borders, so that they may not interfere with the trees on the wall. There would not only be more fruit, but a larger continuance of it.

It is also worthy of consideration, whether we now make the most of walls—I mean devote them to that most likely to pay. For instance, a south wall 12 feet high, now exclusively devoted to Peaches, Nectarines, Apricots, and occasionally Figs (which is the greatest waste of space that I know of), might, together with from 12 to 18 feet of border, be covered with glass at a cost of £1 per foot run; and if planted with Vines would it not make an excellent and profitable vinery, and be a good substantial structure equal to any used for horticultural purposes? Vines at 3 feet apart would certainly pay a good per centage for the outlay. If the length were 300 feet, 100 Vines might be planted, and they would be poor indeed if they did not each give £1 worth of Grapes after the second year, which, taking first cost and wear and tear into consideration, would be at least equal to 25 per cent. profit. Another part of the wall covered in like manner with glass for Peaches, Nectarines, and Figs, would surely pay, in consequence of something like double the amount of fruit being obtained from the space, besides being fully a fortnight earlier. I have seen this idea practically carried out, and with great results. The trees did quite as well on the wall as when exposed, and derived more fully its benefit, whilst the radiated heat was not lost as before in space, but expended on the trees that occupied the border.

Glass coverings applied to the other walls would simply make an east wall suitable for Apricots, Plums, and Cherries; the west being used for the same, for those Pears that are so liable to crack through the humidity and cold of our climate,



and for the better kinds of Apples. There is a great advantage in these lean-to houses with walls—viz., that the fruit on the walls comes into use earlier than that on trees in the borders. I am certain that covering walls with glass is one of the very best systems that can be adopted in any garden, in order to ensure certainty of crop, earliness, and the cultivation of fruits that do not ripen well on open walls. I am equally certain that such coverings need not be constructed as a matter of necessity; for the fruit trees which I have mentioned for south walls, and shall name for the other aspects, have been, and can be, successfully grown on walls now as in days of yore. There should, however, be some limit as to latitude and elevation: I may, therefore, observe that these remarks are based on observations made between 52° and 54° of north latitude.

To resume. A south wall receives and absorbs the greatest amount of heat, it is, consequently, the warmest. Fruits ripened on it are sweeter, more sugary, of whatever description they may be, including those that grow on the other aspects—as Plums, Cherries, Pears, and bush fruit as Currants and Gooseberries. The heat absorbed by day is radiated during the night, and a thermometer with its bulb exposed towards the wall indicates a temperature of from 6° to 10° higher than one in the open ground at the same distance from the ground. I have found that the blossoms (never so tender as the young fruit), are uninjured by 6° of frost when unprotected on a south wall. In addition to this, the ground and air for some distance in front of the wall are warmer than in an open situation, and the crop close by it is a fortnight earlier, whilst that on the rest of the border for a distance equal to the height of the wall is earlier by ten days.

The evils of a south wall, like the benefits, are great. The bricks absorb the sun's heat so rapidly as to become quite warm during winter, and this warmth excites the bloom-buds to swell and flower too early in the spring, and there is then a danger of the fruit suffering from spring frosts: hence it has been found necessary to protect the trees with nets, branches of trees, &c., by day, to prevent the bloom-buds swelling during any bright weather that may happen in early spring; and after the blooms expand to protect them at night from frost until the foliage becomes large enough to shield the fruit, or until frosts are past. The first of these evils—namely, the too early swelling of the bloom-buds, may be prevented to a considerable extent by having wires to train the trees to at about 1½ inch from the wall, this being the only form of trellis to be recommended. When fastened to the wall with shreds and nails the trees are literally roasted at noon, the buds swell much too early in spring, and the nailing destroys the face of the wall in a few years. Another evil is, that the wall is exceedingly hot in summer, but the heat is lessened, however, and does no great harm when the trees cover the wall. The bricks, too, are continually absorbing and giving out moisture. In dry weather they rob the trees of moisture, for they have a greater absorbing power than the leaves, and attacks of red spider are encouraged, whilst in wet weather they add to the wetness by remaining saturated, consequently we have attacks of mildew. Bricks absorb heat and moisture more rapidly than stone does. A dry brick will take up a pint of water, and be apparently dry, whilst from the surface of stone moisture hangs in drops. Bricks, I may remark, do not heat so quickly when covered with moss as when the surface is clean, and stone is influenced in a like manner. I may state that Peaches against a brick wall are some days earlier in ripening than against a stone wall, and Apricots are earlier still. Sometimes walls are painted with boiling coal tar, which closes the pores of the bricks, renders the wall hotter, and prevents the absorption of moisture. I cannot affirm that any benefit arises from this, from a coating of tar painted white or stone colour when dry, nor from whitewashing. There may be, but I have not experienced any difference worth mention. There cannot be a doubt that washing walls with lime, soot, and sulphur, mixed to the consistency of paint with boiling stale urine, destroys the eggs of insects. I have always been puzzled to find that Peach trees are the most infested with insects at the lower parts of the walls, whilst at the upper part they are free, not through the season, but at the first attacks. Green fly and red spider always begin at the lower branches, and extend upwards. Thus I have often noticed that the dwarfs were severely attacked, whilst the standards or riders were free, and this more especially for the first three or four years after planting.

East walls are chiefly employed for Cherries and Plums. In some instances I have known Apricots answer pretty fairly, but they are not to be depended upon. Cherries succeed fairly on

east walls, better even than on western aspects. With regard to Plums I cannot say that they do well on east walls, but fairly, though not so well as on a west wall. Pears, too, do not do so well on this as on a western aspect.

A west wall is the second best aspect, and should be planted with Pears, for they are liable to get badly on an east wall, when east winds prevail in spring, and they swell much better, and are never so gritty on a west aspect. Plums also succeed well. A west wall is never so much subjected to the injurious effects of the elements as an east wall. The air is often very cold and dry from the east, blights the trees, and does much mischief to the leaves, especially when these are young; but the west wall, on the contrary, is shielded from these evils, is warmer, and the wind it receives is more mild and humid. The trees are not so liable to have the bloom injured in spring by cutting winds and the insects which these bring. The only objection which I have to advance against west walls is, that the winds from that quarter are the strongest, and unless protected or sheltered by trees at a distance, the fruit is apt to be seriously bruised or blown off.

East and west walls are not acted on by solar heat to the same extent as south walls, consequently there is little danger of the buds being excited too early in spring, and the blossom being injured by spring frosts, against which the wall is usually sufficient protection. The two aspects are about equal as regards the crops on the borders; but the east, being the drier, is usually employed for herbs, and is, if anything, the earlier. The west border is certainly better adapted for Turnips, Lettuces, and the like. The earliness of all the borders is best tested by growing on all some of the same kind of crop. I found Keens' Seedling Strawberries were gathered on a south border on the 15th of June; on an east one on the 24th; on a west on the 28th; and on a north on the 16th of July. I also found that May Queen was gathered on the 28th of May on a south border, not further from the wall than 7 feet; Black Prince in a similar position on the 10th of June; and Keens' Seedling on the 15th of June. I also found Keens' Seedling in a bed 10 feet from a south wall was ripe on the 21st of June. Ash-leaved Kidney Potatoes close to a south wall were ready for use on the 1st of June, at 4 feet from the wall on the 10th, and at 10 feet from it on the 21st. Peas, again, sown on the 10th of November, at 3 feet from a south wall, were fit for table on the 7th, at 8 feet from the wall on the 18th, and sown at the same time on an east and west border on the 28th of June, and 2nd of July respectively, whilst those on a north border did not come in until July 18th. With these facts before us, and many more that might be adduced, it is evident that walls have a protective and retarding power. Walls may not shelter a garden, but they make some part of it warmer, and break the force of the wind.

North walls are the worst of all aspects for the growth of fruit. Morello Cherries, Currants, and Gooseberries, are the fruits which succeed best upon them. I have seen north walls planted with Plums, Cherries, Pears, and Apples, but the fruit of the first was scanty, and that of the last two scantier still, Cherries doing the best, and forming a good succession to those on the other aspects. I have known Morello Cherries kept until a very late period, and Currants matted up until the fall of the leaf. For retarding Broccoli in early summer, and Turnips to come in with forced Carrots, to have Strawberries late, and Currants and Gooseberries when those on the other aspects are over, and for retarding many other crops, north walls and borders are of great value. The most remarkable fact which I know in connection with north walls is, that if a Pear tree be planted on the south side and trained over the top and down the northern side, it will bear fruit equally well on the north as on the southern aspect. I have known Plums treated in the same manner, and with the same results, the fruit being some days later in ripening, and I have been told of the same result taking place in the case of an Apricot, but it did not come under my own observation.

Now as to the other aspects. A north-east aspect would grow Cherries, Currants, and Gooseberries; the north-west, Pears of the hardier kinds, but not so well as a west wall; the south-east, Plums and Apricots; and the south-west, Peaches and Nectarines, but the more choice Pears much better. If there is any necessity for houses for Peaches and Nectarines, these aspects not being good enough, houses are the sure road to success.

It seems to me, apart from all points not commercial, a pity to cover any part of a garden wall with glass. I say this guardedly. Where there is no obstacle in the way to the crea-



tion of detached houses for the growth of fruit it seems an error of judgment to cover the wall with glass. I think that glass houses should be erected for those fruits that do not ripen well on walls; and if they are not sufficiently warmed through solar heat, heat them artificially without any hesitation. Let everything be done in order that success may be certain if proper care and attention be exercised. Grow on walls such fruits as do well, and those that do but indifferently as standards, bushes, and pyramids, in the open exposed ground. Where expense is everything, then covering a wall with glass would be the best plan to adopt. This would answer the purpose in a cold climate; but it would be a pity, for there is no finer sight in a garden than walls of Peaches covered with blossom in spring and loaded with fruit in autumn, or a Pear wall covered with a carpet of leaves throughout the summer, and hung with large handsome fruit in autumn. Covered walls never afford so agreeable a promise as a large detached house, or, if they did, the pleasure of breathing the fresh air and viewing the trees on the walls is gone. If we are to be, and I suppose must be, modernised in our notions, let us not adopt half-measures.

I am persuaded that those who have gardens, whether proprietors or those in charge, would confer a benefit on themselves and offer a great stimulus to fruit culture if they were to keep a register of the fruit trees in cool houses or those without artificial heat, on walls, and in the open ground, beginning 1st, with the soil; 2nd, description of tree and how trained—bush, pyramid, or standard; 3rd, age of trees where practicable; 4th, time of flowering, noting whether injured or not by frost; 5th, the time of the fruit being ripe—Pears, when gathered and fit for table, and the same of Apples, with the continuance of their season; 6th, size, obtained by measuring round the middle of the fruit and also round by the eye and stalk, also weight of a single fruit, and half a dozen of a fair sample. If grown on walls, the aspect and other particulars should be named, and the whole tabulated like a meteorological table, there being a column for general remarks not coming within the range of the separate headings. It would add much to the value of the observations if the highest and lowest daily temperature were registered with the rainfall and hygrometrical condition of the atmosphere. I think these observations would be highly interesting and valuable to all growers of fruit, and the mutual exchange of observations could not fail to be of considerable advantage. A few shillings annual subscription would be all that would be needed to carry the project into effect—to defray the expenses of forms and the publication of annual reports. I have already done a little in this way, and gleaned a few facts which memory fails to furnish when wanted accurately and promptly.—G. ANGER.

## THE BEDDING-OUT IN KENSINGTON GARDENS AND HYDE PARK.

KENSINGTON PALACE is an irregular pile, chiefly built by William III., but considerably altered and enlarged by succeeding monarchs. The structure is composed of brick, and the principal division inclines in shape towards a square, and shows three fronts on the garden side. The offices attached to the main building are very extensive. Only the south front is favoured with flower-beds, which are planted in the following order in pairs to match at each side of a broad walk leading up to the Palace. The first, third, fifth, and seventh are planted alike with three rows of *Stella Geranium* in the centre, then two rows of *Flower of the Day Geranium*, then a row of *Lobelia speciosa*, edged with *Gnaphalium latatum*. The second bed, a circle, is planted with *Christine Geranium* in the centre, then blue *Lobelia*, edged with *Cerastium tomentosum*. The fourth, also a circle, is planted with *Madame Vaucher Geranium* in the centre, then blue *Lobelia*, edged with *Cerastium tomentosum*; and the sixth bed the same as the second.

When I say that the Palace has no hall or front door, and that the walk is at the east end of the portion of lawn devoted to flowers, I am sure that this will appear incongruous to the eye of taste. The ribbon-border is composed of *Lady Plymouth* and blue *Lobelia* alternately, then *Jenny Lind Heliotropes*, *Perilla nankinensis*, a row of *Flower of the Day Geranium*, and yellow *Calceolaria* planted alternately in the row, then a row of *Punch Geranium*, and then a row of white *Peverley*, backed by *Monkshood* and *Chrysanthemums*. On the west side, in front of the offices, the beds around the square piece of lawn look gay, but there seems a want of balance and some-

thing of a framework to separate it from the broad expanse of the park scenery.

Having passed along the broad avenue of Elms we enter what is called the Long Walk on the south side of Kensington Gardens; it is planted ribbon-fashion with an edging of *Stachys lanata*, then a yellow *Calceolaria*, said to be received from Hampton Court, then *Punch Geranium*, then *Ageratum mexicanum*, backed with shrubs. It is an improvement upon the planting of last year, and looking along the rows you are led to expect that it is well filled, but during your progress you are surprised to find that every plant is 18 inches apart in the rows. When you reach the end of the walk bear a little to the left leaving the bridge that spans the Serpentine on your right, and there, on a gradual slope, stands a low, Ivy-clad, castellated lodge, the residence of the foreman, with a semicircular grass plat in front, not surpassed for its floral beauty and retired scenery of wood and water by any other place with which I am acquainted. The small plot is furnished with five circles of different sizes—the largest, in the middle, planted with *Cloth of Gold*, two with *Christine Geranium*, two with *Madame Vaucher Geranium*; and a band surrounds the half circle composed of eight rows of different plants, and eleven or twelve No. 1 pots, filled with plants in flower, set on the grass and walk. There are, besides, two stages, 8 or 10 feet high, filled with plants in pots against what may be called the Ivy-clad wings of this pigmy castle. Much taste is displayed in the arrangement of the colours in the pots and beds, and it is a scene well worthy of a visit.

The gardens are three miles and a half in circumference, and contain a circular basin called the Round Pond, near the Palace, with three straight avenues diverging to three different points eastward. Two main gravel walks, each half a mile long and 21 yards wide, intersect these beautiful gardens from north-west to south-east with a broad circumferential and other gravel walks communicating with different parts of these thickly wooded and extensive landscape scenes. Nature in the undulations of the ground, and Art in the hands of the landscape gardener, have contributed to their beauty by presenting to the spectator distant views through long vistas of stately trees, and the Serpentine river winding through the valley. Placed near the city's western extremity, between its two principal thoroughfares, which here approximate so closely as almost to embrace it, and from which it is just sufficiently separated to protect it from the annoyance attendant upon a too close approximation to a great highway, and approached through the parks and its own grounds by beautiful walks it is a spot visited by all for its own sake, and to which we would with pride and pleasure conduct the footsteps of a stranger. The air of tranquillity which reigns around the spot itself, embraced as it is within the circle of the most populous capital in Europe, is almost marvellous. The trees in some parts of the grounds have been planted in masses of a sort, in other parts they are gathered into thick groves of mixed kinds, and intersect by long avenues from different points. An Elm tree that I measured was 15½ feet, a Horse-Chestnut 12½ feet, a Hornbeam 7 feet 8 inches, and a Spanish Chestnut 18 feet 8 inches in girth 3 feet from the ground. On a narrow strip of ground, about 150 yards long, running parallel with Rotten Row from Hyde Park Corner, I noticed some mounds and clumps that have lately been made and planted there. It is the first instalment of an improvement which I hope to see extended along the now-neglected site of the ever-memorable Exhibition of 1851.

From Stanhope Gate to Grosvenor Gate, beside Park Lane, the beds and borders are planted in the following order:—1st bed: centre, *Stella Geranium*, then *Purple King Verbena*. The opposite bed: centre, *Commander-in-Chief Geranium*, with two rings of variegated Mint and blue *Lobelia* planted triangularly. 2nd bed: centre, *Christine Geranium*, then *White Ivy-leaved Geranium*. Opposite bed: centre, *Commander-in-Chief Geranium*, then *Purple King Verbena*. 3rd bed: centre, *Trentham Rose Geranium*, then *Mangles' Variegated Geranium*. Opposite bed: centre, *Punch Geranium*, then *Purple King Verbena*. 4th bed: centre, *Tom Thumb Geranium*, then *Flower of the Day Geranium*. Opposite bed: *Tom Thumb Geranium* centre, then *Purple King Verbena*. 5th bed: centre, *Stella Geranium*, then *Madame Vaucher Geranium*. Opposite bed: centre, *Prince of Orange Calceolaria*, then *Verbena Purple King*. 6th bed: centre, *Stella Geranium*, then *Bijou Geranium*. Opposite bed: centre, yellow *Calceolaria*, then *Purple King Verbena*. 7th bed, centre, *Tom Thumb Geranium*, then *Madame Vaucher Geranium*. Opposite bed: centre, *Horsehoe Geranium*, then *Purple King Verbena*. 8th bed: centre, *Tren-*



tham Rose Geranium, then Flower of the Day Geranium. Opposite bed : centre, Stella Geranium, then Purple King Verbena. 9th bed : centre, Christine Geranium, then Ivy-leaved White Geranium. Opposite bed : centre, Commander-in-Chief Geranium, then Purple King Verbena. 10th bed : centre, Tom Thumb Geranium, then Purple King Verbena. Opposite bed : centre, Commander-in-Chief Geranium, then two rings of variegated Mint and blue Lobelia planted triangularly. All the beds are edged with two rings of *Cerastium tomentosum*.

The next compartment contains a ribbon-border at each side, planted with two rows of *Tropaeolum lobbianum elegans*, then *Heliotrope Jenny Lind*, *Punch Geranium*, then white *Feverfew*, backed with shrubs. Opposite : an edging of variegated Mint, then Purple King Verbena, *Punch Geranium*, yellow *Calceolaria*, then *Perilla nankinensis*, backed by shrubs. The next compartment from the Oak tree is planted with *Tropaeolum lobbianum elegans*, then scarlet Geranium, backed with *Ageratum*. Opposite : Robinson's *Defiance Verbena* and variegated Mint alternately, then *Stella Geranium*, *Ageratum*, and *Perilla*, backed by *Aucubas*. The next compartment is also planted ribbon-style with *Gazania splendens* as edging, then *Madame Vaucher Geranium*, then *Stella Geranium*, *Bijon Geranium*, and *Perilla*. Opposite side : two rows of Purple King Verbena and Mint triangularly, then Tom Thumb Geranium, then Flower of the Day Geranium, then *Perilla*, backed by shrubs. The last compartment is composed of two rows of variegated Mint and *Lobelia speciosa* triangularly, four rows of Christine Geranium, backed by white *Feverfew*. Facing the park is a long ribbon-border, planted with an edging of variegated Mint, two rows of Purple King Verbena, two rows of yellow *Calceolaria*, and a row of *Perilla nankinensis*, backed by *Aucuba japonica*. It is a splendid ribbon-border, forming a gentle slope from the back to the front.

From Grosvenor Gate to the Marble Arch is a long piece of pleasure ground laid out in beds (pairs to match at each side of the walk), on grass. The first is planted with *Colons Verschaffelti*, edged with *Centurea candidissima*; circular beds with Christine Geranium alone, also beds of *Madame Vaucher Geranium*, then circle beds of Cloth of Gold Geranium, then a pair of beds of *Centurea candidissima*.

In the shrubberies north and south in Kensington Gardens are large iron labels stuck in front of the trees and shrubs, with the botanic and English names thus:—

RIBES BANGSIENEA,  
A blood-coloured flowered Currant.  
A Grossulariaceus Shrub.  
Native of North America.  
Introduced 1826.

The late Mr. London suggested the advantages of naming the trees and shrubs, and also of removing the wall on the north boundary of Kensington Gardens. After years of perseverance he lived to see his suggestions carried into execution, and to be universally admitted as improvements. To attach labels with the names to the bedded-out plants would be a boon to the public; it would also save nurserymen from the trouble of guessing the names of plants described by customers who have seen them in the parks. Five pounds would cover all the expense of so doing, a very small item out of the £24,774 allowed for St. James's, Green, and Hyde Parks, and £5956 for Kensington Gardens. Very great credit is due to the Hon. Wm. Cowper, Chief Commissioner of the Woods and Forests, for the many improvements that have been made in the parks—the people's parks—and for which the many thousands that enjoy them feel grateful.—W. KEANE.

### HEATED VINE-BORDERS.

The question of heated Vine-borders has lately often been discussed in my hearing, and I have taken every opportunity of forming a correct opinion on the subject, except building a viney with borders artificially warmed. Where the subsoil is cold and wet it is easy to see the advantage of an open chamber under a Vine-border, whether heated or not; but on warm and dry soils it is not so easy to perceive the advantage. The expense of making a chamber and putting pipes under it is considerable, and we ought to be quite sure of the advantage to be gained before such expense is incurred. I have seen magnificent crops of Grapes on Vines grown in warm borders, and I think quite as good on those growing in unheated ones; the latter I have fancied were better flavoured and less inclined to turn into raisins. This may only be a fancy of mine, but

we want to hear from those who have tried both plans. The question appears to me to be this—on a warm dry soil does a Vine-border covered with litter early in autumn get so cold during winter and early spring as to be unfit to afford nourishment to growing Vines? If this can be proved to be generally the case, which I much doubt, I would put another question—Is the heating by artificial means of a soil intended to grow Vines the best and cheapest mode of keeping such a soil at a proper temperature? Before answering this question I think the effect produced by covering a large surface of ground with glass ought to be investigated. I have a house, 100 feet by 24, kept warm all summer and most of the winter for the growth of Vines in pots; under the floor of this house is a large soft-water cistern, and though of course the rain caught during winter and melted snow are cold enough, I believe water was never pumped out for use during the coldest weather at less than 70°. How can a large surface of land covered by a hothouse get cold? Suppose vineries were built 30 feet wide and the trees planted inside, would their roots not be warm enough? A house for trees as bushes may be too wide, because if they are planted thickly they shade each other, but for Vines trained under the roof this is no objection. The best flavoured black Grapes I tasted last season were so grown in a house without fire heat. J. R. PEARSON, *Chilwell, Notts.*

### CUCUMBERS OUT OF DOORS.

We believe in warm situations the best plan to grow Cucumbers out of doors is to sow them in the open ground about the end of May, and then thin out as you would a row of Turnips, leaving 6 or 7 feet from row to row. The huge baskets of short Cucumbers and Gherkins that find their way from Sandy and Biggleswade to the London market, are thus managed. The plants receive one or two stoppings, and sometimes none at all, and the gathering continues until the cold nights come in the autumn. Though the Cucumbers look somewhat rough and gnarly, they are very sweet and crisp when cut young, when so managed. In such circumstances the plants do much better to be sown where they are to grow, than when raised in heat, hardened off, and then transplanted, as they are apt to show the effects of the coddling.

The next best plan, and necessary in cold places, is to make a slight hotbed, by making a hole sufficient to hold two or three barrowloads of hot dung, placing the earth on it in a mound, bevelled down, and then sowing half a dozen seeds on each mound close together, and thinning out to three or four plants afterwards. If these can have a hand-light placed over them it will be all the better, giving air as soon as the plants are up; and as soon as the plants are large enough to run beyond the glass, tilt the glass up on four bricks, four pieces of turf, or four lumps of soil. The glass will keep the collars of the plant from heavy rains, and thus save them from gangrene. Many dispense with the glasses altogether after June, but in wet districts we deem them useful for the above purpose. In all such cases, the Cucumbers will thrive better if the vines are stopped, and the laterals stopped back, and not too many fruit allowed to remain, just as those in frames are generally managed. Where grown on a large scale in a field, the constant gathering renders such care less necessary, as the gathering every other morning or so prevents the plant being exhausted prematurely.

Even in cold places we have grown Cucumbers very successfully, and long kinds, too, by training them to a couple of stems against a wall or paling facing the south. In this case a hole was dug, a little hot manure given, and fresh rich soil added to the natural soil; good strong plants were brought from a cold pit. These plants had the point nipped out at the third rough leaf. Two shoots were allowed to come, all others were nipped out, and these shoots were trained up the fence about 3 feet apart, and were not stopped until they were from 3 to 4 feet in length, or sometimes longer, the object being to have a strong plant before the Cucumbers appeared. After stopping almost every side shoot would then fruit at the second and third joint, these side shoots were stopped the joint beyond the fruit, and thinning the fruit and this stopping was almost all that was required, with good warm waterings in hot weather, to insure continuous bearing until the weather got too cold. Protected thus by a fence the plants will bear longer than when on the ground in the open air. This will be especially the case if a mat or a piece of calico is suspended over the plant during cold night. Beds in the open air will also continue bearing longer



if the lateral shoots are kept thin, and the bed is covered with flat red tiles placed firmly on the ground. We prefer the common red, as having a medium capacity for the absorption, and the radiation of heat. Painting the tiles in summer with sulphur paint, made of sulphur water and a little soft soap, will keep off mildew and red spider.—R. F.

## ROYAL HORTICULTURAL SOCIETY'S FRUIT AND VEGETABLE SHOW.—JULY 22.

ALTHOUGH the classes in which competition was invited were very numerous, the number of exhibitors in each was rather small; the show consequently was not so extensive as the amount offered in prizes ought to have brought forth; and of the productions themselves it may be stated that whilst on the one hand they offered no extraordinary excellence, they did not on the other exhibit any considerable falling off from an average degree of merit. The attendance of visitors, although the day was fine, was very small.

Only one collection of fruit was exhibited, by Mr. Carr, gardener to P. L. Hinds, Esq., Byfleet Lodge. It consisted of a Queen Pine, Tegg's Scarlet-fleshed Melon, Sweetwater Grapes, Moorpark Apricots, Gooseberries, and fruit of *Musa Cavendishii*, and the Papaw. Pines were not numerous; Mr. Young, gardener to Crawshaw Bailey, Esq., Aberdare, sent two fine Queens, an Enville, and Black Jamaica; Mr. Standish, eight well grown fruit; and Mr. W. Thomson, gardener to the Duke of Buccleuch, Dalkeith Palace, a very fine Enville, Lord John Manners, and a Smooth Cayenne. A Providence of 11 lbs. 4 ozs. came from Mr. Allen, gardener to J. B. Glegg, Esq., Withington Hall, and excellent Queens from Mr. Grant, Finchley, and Mr. Young. The only two prizes given in the class for any sort went to excellent Envilles from Mr. Thomson and Mr. Young.

Awards.—For three kinds: First, Mr. Young; second, Mr. W. Thomson; third, Mr. Standish. For Providence: First, Mr. Allen. For Queens: First, Mr. A. Grant; second, Mr. Young; third, Mr. M. Higgs, gardener to Mrs. Barchard, Putney Heath. For Any sort: First, Mr. W. Thomson; second, Mr. Young.

Only two collections of Grapes were brought forward. That from Mr. Hill, gardener to R. Sneyd, Esq., Keele Hall, consisted of very good Black Hamburgs, Black Prince, not equal to what he usually brings; Black Alicante (Merced's); Royal Muscadine; Lady Downe's, very good; Buckland Sweetwater, finely ripened; excellent bunches of Ingram's Hardy Prolific Muscat, and Black Morocco, under the name of Horsforth Seedling. The other competitor had Black Hamburg, Canon Hall, and Muscat of Alexandria. Of Black Hamburg excellent bunches, with large well-coloured berries, came from Mr. Sage, Mr. M. Henderson, and Mr. Wallis; and Mr. Brown, gardener to the Earl of Chesterfield, and Mr. Cruickshank, gardener to W. J. Lloyd, Esq., Watford, also sent good bunches. Other Black Grapes consisted of Muscat Hamburg, from Mr. Osborne, Finchley; Mill Hill Hamburg, with fine large berries, but reddish in colour, as this variety is apt to come, from Mr. M. Henderson; excellent Black Prince, from Mr. Hill, the three bunches weighing 7 lbs. 12 ozs.; Treutham Black, very good, weight 4 lbs. 2 ozs., from Mr. Wallis; and Black Frontignan from Mr. Squibbs.

Muscats as usual were generally too green, but those from Mr. Sage were beautifully ripened. Mr. Tyler sent very large bunches of Bowood Muscat, weight 9 lbs. 3 ozs.; and fine bunches came from Mr. Standish. Of Canon Hall good bunches were shown by Mr. Budd, gardener to Earl Darnley, Cobham Hall; whilst Golden Hamburg was also well represented. Duchess of Buccleuch, a variety raised by Mr. W. Thomson, Dalkeith, and possessing a Muscat flavour, was also shown.

Awards.—For a collection: First, Mr. Hill; second, withheld; third, Mr. Tansley, gardener to Mr. Moss, Chadwell Heath.

For Black Hamburgs: First, Mr. Sage, gardener to Earl Brownlow, Ashridge; second, Mr. M. Henderson, gardener to Sir G. Beaumont, Bart., Cole Orton Hall; third, Mr. Wallis, gardener to J. Dixon, Esq., Astle Park, Congleton.

For Muscat Hamburg: First, Mr. G. Osborne.

For Mill Hill Hamburg: First, Mr. M. Henderson.

For Black, any kind: First, Mr. Hill; second, Mr. Wallis; equal third, Mr. Squibbs and Mr. Brown.

For Muscats: Equal first, Mr. Sage and Mr. Tyler; second, Mr. Standish; third, Mr. Tansley.

For Canon Hall: First, Mr. Budd.

For White, any kind: First, Mr. W. Thomson; equal second, Mr. Beasley and Mr. Cross; third, Mr. Busby.

Peaches were not numerous, but we remarked some beautiful dishes of Grosse Mignonne, Bellegarde, and Violette Hative; also a seedling from Mr. Ingram, very beautiful in colour, rich orange yellow where shaded, dark crimson next the sun; fruit rather small, and with a shallow suture. Of Nectarines but few dishes were shown, and of these the best were Elrage and Violette Hative.

Awards.—For Peaches, two dishes: First, Mr. Tillery, gardener to the Duke of Portland, Welbeck; second, Mr. Osborne; third, Mr. Bain and Mr. H. Whiting. For single dish: First, Mr. Tillery and Mr. Wallis; second, Mr. Osborne; third, Mr. W. Lane, gardener to J. Miles, Esq., Fryern, Barnet. For Nectarines: First, Mr. Sage;

second, Mr. Lane; third, Mr. Rogerson, gardener to E. Brown, Esq., Acton, and Mr. Tillery.

In Figs an excellent dish of Brown Turkey, from Mr. Whiting, The Deepdene, had a first prize; the same kind, from Mr. Rogerson, was second; and White Marsilles, from Mr. Cross, gardener to the Dowager Lady Ashburton, Romsey, had a first prize in the White class.

Cherries consisted of very good dishes of Morello, from Mr. Marcham, Mr. Squibbs, and others; Black Tartarian, very fine, from Mr. Whiting; Florence, from Mr. Higgs; Bigarreau Napoleon, from Mr. Tillery; Elton, and May Duke.

Awards.—For Black: First, Mr. Marcham. For White: First, Mr. Cruickshanks; second, Mr. Higgs; third, Mr. M. Henderson. For a single dish: First, Mr. Tillery and Mr. J. B. Whiting; second, Mr. R. Marcham; third, Mr. Squibbs.

Of Plums only a few dishes were shown. Mr. Squibbs was first with Black Morocco; Mr. Beasley, gardener to T. Wood, Esq., Acton, second; Mr. Whiting third.

At this late period of the season Strawberries could not be expected in quantity. The only exhibitor in the class for four dishes was Mr. Tillery, who had a first prize for Empress Eugénie, Welbeck Seedling, Rifleman, and Frogmore Pine. Mr. Earley, gardener to F. Pryor, Esq., Digswell, had a second prize for Elton; and a third was awarded to Mr. Phipps.

Of other subjects, some good Gooseberries were shown by Mr. Carr, and Mr. Young, gardener to R. Barclay, Esq., Highgate; some of those from the former were very large. The first prize was awarded to Mr. Carr, the second to Mr. Young.

Of Currants, Red, White, and Black, excellent dishes were shown by Mr. Carr, Mr. Ford, gardener to W. Hubbard, Esq., Horsham, and Mr. Beasley, Twyford Abbey, who had prizes in the order in which they are named. Raspberries were chiefly confined to the Fastoff; Mr. Moffat, gardener to Viscount Maynard, was first, and Mr. Clarke, gardener to Colonel Long, second, both exhibiting that kind. In Green-fleshed Melons the first prize went to Mr. Wright, gardener to the Earl of Normanton, Kingwood, for Sir John Sebright's, and the second to Mr. Squibbs, for Hybrid Perfection, prettily netted. In Scarlet-fleshed Windsor Prize from Mr. Weir, gardener to Mrs. Hodgson, Hampstead, took the first prize. Mr. Standish exhibited Vines in pots, each bearing from five to nine good bunches; the kinds were Black Hamburg, Golden Lady Downe's, and two seedlings, one from Chasselas Musqué, but with black berries, and the other called Citronelle, a white kind. Mr. Fraser, Lea Bridge Road, sent orchard-house trees; Mr. Carr, Peaches; and Mr. Rogerson, Figs in pots; Mr. Carr, fruit of the long Mango Papaw, somewhat resembling a Vegetable Marrow, green changing to yellow; some good Apricots came from Mr. Whiting and others; Apples from Mr. Young; Muscat Champion Grape, an excellent variety, raised by Mr. Melville, Dalmeny Park, from Canon Hall and Muscat Hamburg, from Mr. Veitch; an excellent basket of Golden Hamburg Grapes from Mr. Cross, and a very good one of Black Hamburg from Mr. M. Henderson.

## VEGETABLES.

The show of vegetables had a much better appearance on this occasion than such shows usually present; and most classes of vegetables were well represented.

In collections of not less than eight kinds, Mr. Budd, gardener to Earl Darnley, was first with Globe Artichokes, Parsley, Onions, Veitch's Perfection Peas, Kidney and Broad Beans, Dawe's Kidney Potatoes, Cabbage, Vegetable Marrows, Cabbage Lettuce, Cucumbers, Mushrooms, Beet and Carrots. Mr. Earley, Digswell, was second; and Mr. Whiting and Mr. Exell, gardener to Mrs. Sweetlove, third. A good collection also came from Mr. Veitch.

In collections of not less than six kinds, Mr. Exell, gardener to J. Hollingworth, Esq., Maidstone, was first with Carrots, Potatoes, Broad and Kidney Beans, Peas, Onions, Lettuce, Globe Artichokes, Rhubarb, Cabbage, Herbs, and Horseradish; Mr. Hill, Highgate, was second.

For four kinds of Peas, Messrs. Hooper & Co., Covent Garden, were first with Hooper's Incomparable, King of Marrows, Veitch's Perfection, and Imperial Wonder, with beautifully filled pods; Mr. Veitch, second, with Veitch's Perfection, Mammoth Dwarf Green Marrow, Early Emperor, and Nonpareil Wrinkled Marrow. The best single dish was Veitch's Perfection, from Mr. Carr.

Of Potatoes, both Kidney and Round, excellent, sound, clean tubers were shown by most of the exhibitors. For four kinds of Kidney, Mr. Whiting was first with Sutton's Early Racehorse, Rivers's Royal Ashleaf, Jackson's Ashleaf, and Eugénie, white flushed with red. Mr. Moffat, gardener to Viscount Maynard, was second. In Round kinds, Mr. Whiting was again first, with Napoleon, Early Shaw, Palmahoy, and a large kind unknown. The best twelve Kidneys were Edgcott Second Early, from Mr. Neale; the best twelve Round, Transell's Seedling, from Mr. Moffat.

Among Carrots some beautiful roots of the Intermediate were sent by Mr. Exell, gardener to Mrs. Sweetlove; also good Early Short Horn, from Mr. Exell, gardener to J. Hollingworth, Esq., and Mr. Whiting. Turnips, Beet, Shallots, Onions, Cabbage, Cauliflowers, Lettuces, Kidney and Broad Beans, were also well represented; and there were exhibitions of Rhubarb, Mushrooms, Celery, but small; Potatoes: a collection of different forms of Vegetable Marrows, from Mr. Veitch, and of edible Gourds, from Mr. Young, Highgate. For



The prizes awarded to the above subjects we must refer the reader to our advertising columns.

Hollyhocks were again exhibited by Messrs. Paul & Son, and Downie and Co., the former also sending out *Roses* and *Phloxes*; Mr. Clarke, Brixton, likewise contributed *Roses*; whilst Messrs. Cutbush's fine *Liliums* also remained, the whole forming a tolerably good floral display.

### THE BIRMINGHAM ROSE SHOW.

The fourth of these interesting gatherings took place on Thursday and Friday the 6th and 7th inst. at the Town Hall; and in every point of view, except the financial one, it was a decided success. The entries were numerous—much more so than last year—and the quality of the floral display fully realised the expectations which we ventured to indulge respecting it. In the opinion of the most competent authorities, professional as well as amateur, it was quite equal to the best of the metropolitan shows. Every rosarian knows how trying has been the present season, more especially the heat of the last few weeks, to his favourites; and, taking the weather into account, the blooms generally, both in substance and colour, were surprisingly good. As a matter of course, those varieties which are the most deficient in the former property suffered the most. The arrangements, too, were praiseworthy; the ornamental-foliaged plants and garden ornaments being so disposed as to produce an admirable effect. The elements, however, were unpropitious; and if anything could demonstrate the strength of the allegiance to the queen of flowers which pervades the community in and around Birmingham, it assuredly was the considerable muster of visitors whose zeal to render her "suit and service" was not to be overcome by the almost incessant rain which fell throughout Thursday.

One of the features on this occasion was the quantity of new *Roses* in many of the collections, where they were better represented than in the divisions which were exclusively devoted to them. At their head we should, without scruple, place *Maréchal Niel*, which deservedly attracted much attention. It was sent out during the past spring; and is said to be one of the hardiest of the *Noisettes*, and a free bloomer. Of a rich golden yellow colour, with stout petals, and fine contour, it is altogether a splendid flower, bidding fair to supersede *Cloth of Gold*. It was seen to great advantage in the stand with which Messrs. Paul & Son took first honours for ninety-six varieties, which also contained *François Louvat*, crimson, shaded with lilac, hardy in constitution, and a free bloomer; *Leopold Premier*, a bright deep red, large and double; *Eugene Verdier*, a rich violet, large, full, globular, a strong grower, and not liable to "burn" as some of the dark-coloured kinds; *Lælia*, silvery shaded, a fine double *Rose*; *Lord Herbert*, bright rosy carmine; *Senateur Favre*, a deep crimson, grand in shape, with a thick petal; and *Emotion*, a large white, beautifully tinted with rose colour. This, although catalogued as a Bourbon, is, we understand, a cross between a Hybrid Perpetual and a Bourbon, and the exhibitors propose that, with others of the same origin, it shall be relegated to a distinct class, to be denominated Hybrid Bourbons. Among later acquisitions, the most noteworthy were *Alphonse Damaizin*, a weak grower, which, under favourable conditions, is magnificent; *Maréchal Vaillant*; *Pierre Notting*; *Duc de Rohan*; *Général Jacqueminot*; and *Madame Victor Verdier*. The following is the entire list:—

Anna de Diesbach, Madame William Paul, General Bissen, Maurice Bernardin, Louise de Savoie, Triomphe de Caen, Queen Victoria, Madame Boutin, Virginal, Lord Clyde, La Ville de St. Denis, Lord Herbert, Lamarque, Senateur Vaisse, Baronne Gonella, Lord Raglan, President, Alphonse Damaizin, Madame William Paul, Eugene Verdier, Emotion, Madame Furtado, Souvenir d'Elise, Madame Valemboing, Madame Victor Verdier, Niphètes, Alphonse Karr, Maxime, La Duchesse de Morny, Comtesse de Kergolay, Victor Verdier, Narcisse, Alfred de Rougemont, La Rhone, Madame de Cambacères, Clement Marot, Maréchal Niel, Louis Van Houtte, Princess Mary of Cambridge, Paul de la Moilleray, Madame Willermoz, Rev. H. Dombrain, Comte de Nanteuil, Olivier Delhomme, Celine Forestier, Maréchal Souchet, (Damaizin), Madame Freeman, Paul Desgrand, Souvenir d'un Ami, Lælia, Mlle. Emain, Madame Caillat, Devoniensis, Modèle de Perfection, Triomphe de Rennes, Bernard Palissy, Alpaide de Rotalier, La Fontaine, Laurent Descourt, Senateur Favre, Gloire de Dijon, Louise Odier, Louise Darzins, Turenne, Duc de Magenta, Monte Christo, Duchesse d'Orléans, Pourpre d'Orléans, Madame Rivers, Leopold Premier, Comte de Paris, Baronne A. de Rothschild, Madame H. Jaquin, Beauty of Waltham, Impératrice Eugénie, Pierre Notting, Souvenir de la Malmaison, François Lacharme, La Reine, Maréchal Vaillant, Comtesse de Chabillant, Mrs. Charles Wood, Solfaterra, Madame Julie Darin, Madame Pauline Labouté, John Hopper, Charles Lefebvre, Allia Rosa, André Leroy d'Angers, Sœur des Anges, Duc de Rohan, Madame Vidot, François Louvat, Madame Boll, Marquise de Foucault. In the excellent stand of Mr. Keynes the best specimens were America, a fine yellow *Noisette*; Jamie d'Or, a large hardy yellow, full and globular in form; Victor Vigier; Madame Charles Wood; Lord Herbert; Docteur Spitzer, a bright red, and symmetrically-built flower; Centifolia Rosa; Gloire de Vitry; Alfred de Rougemont; Baronne de Rothschild; Paul Desgrand; Prince Henri de Pays Bas; and Abbé Reymond. In Mr. Cranston's collection were fine examples of Lord Raglan; Souvenir de la Malmaison;

Maréchal Souchet; Madame Charles Crapelet; Senateur Vaisse; and Madame Pauline Villot.

Awards.—Ninety-six varieties, single trusses (Nurserymen):—First, Messrs. Paul & Sons, Cheshunt; second, Mr. J. Keynes, Salisbury; third, Mr. John Cranston, Hereford; fourth, Messrs. F. & A. Dickson, Chester.

Among the nurserymen who showed forty-eight varieties (three trusses), Mr. Keynes took the lead, with a collection in which the most prominent items were Louise Peyronny, Charles Lefebvre, Louise Margottin, Gloire de Vitry, La Phœenne, Baronne Gonella, Duchesse de Morny, and John Standish. We insert the names of all the *Roses* in this stand:—Maurice Bernardin, Comtesse de Chabillant, Gloire de Vitry, Senateur Vaisse, John Standish, Madame Vigier, La Ville de St. Denis, Laurent Descourt, Madame Charles Wood, Clement Marot, Triomphe de Rennes, Paire de Terre Noir, La Brillante, Centifolia Rosa, Sœur des Anges, Baronne Pelletan de Kinkelin, Duc de Rohan, John Hopper, Duchesse de Morny, Baronne Adolphe de Rothschild, Louis Van Houtte, François Lacharme, Baronne Gonella, Monsieur de Montigny, Celine Forestier, Gloire de Santenay, General Jacqueminot, Comtesse Onvareff, Alpaide de Rotalier, Souvenir de Charles Montault, Maréchal Vaillant, Lays, La Reine, La Phœenne, Devoniensis, Madame Furtado, Anna de Diesbach, Victor Verdier, Gloire de Dijon, Louise Margottin, Belle de Bourg-la-Reine, Alfred de Rougemont, Prince Henri de Pays Bas, Mademoiselle Bonnaire, Souvenir de la Malmaison, Beauty of Waltham, Charles Lefebvre, Louis Peyronny. The second prize went to Messrs. Paul & Son, of whose collection we may specify Maréchal Niel; Leopold Premier; Baronne Adolphe de Rothschild; Souvenir d'Elise Vardon, a white, with a yellowish centre, and one of the finest Tea varieties in cultivation; Celine Forestier, the best hardy yellow, perhaps, with the exception of Maréchal Niel; Arles Dufour, a most desirable dark purple; and Madame Emain, one of the Hybrid Bourbons to which we have already referred.

Awards.—First, Mr. Keynes; second, Messrs. Paul & Son.

For stands of twenty-four varieties (three trusses), Mr. Keynes again stood first, with superior blooms of John Standish, Duc de Rohan, Gloire de Vitry, François Lacharme, Prince Henri de Pays Bas, and Beauty of Waltham. Of Mr. Cranston's stand, we may particularise Duc de Rohan, Souvenir de la Malmaison, Gloire de Dijon, Comtesse de Chabillant, and Charles Lefebvre. The premiums for stands of twenty-four singles were smartly contested, Mr. Keynes being first with, among others, La Reine, Virginal, Lord Macaulay, Pourpre d'Orléans, a noble reddish-purple imbricated flower. In Mr. Batley's collection were Anguste Mic, Madame Pierson, Mlle. Bonnaire, and Mère de St. Louis, which seems to be replacing Virginal.

Awards.—Twenty-four varieties, three trusses:—First, Mr. J. Keynes; second, Mr. J. Cranston; third, Mr. G. Batley, Rugby; fourth, Mr. R. Smith, Worcester. Twenty-four varieties, single trusses:—First, Mr. J. Keynes; second, Mr. G. Batley; third, Mr. R. H. Vertegans, Edgbaston; fourth, Mr. T. W. Condy.

In the classes limited to nurserymen resident in the counties of Warwick, Stafford, and Worcester, the contributions were highly creditable to the growers. Among the best flowers were *Deuil de Prince Albert*, Madame William Paul—a purplish crimson and a first-class *Rose*, Comtesse de Chabillant, Senateur Vaisse, and Madame Damaizin. Messrs. Perkins showed Souvenir de Charles Montault, Madame Furtado, Madame W. Paul, Madame Victor Verdier, Joseph Fiala, Gloire de Dijon, Docteur Spitzer, Madame Caillat, President Lincoln, Charles Lefebvre, Prince Camille de Rohan, John Hopper, Beauty of Waltham, Madame Vidot, General Washington, Victor Verdier, Senateur Reveil, Comtesse de Chabillant, Jean Bart, Madame Boll, Louis XIV., Lælia, Deuil de Prince Albert, Mlle. Bonnaire. In the stand of Mr. Hewitt, which obtained the first prize for twelve varieties, three trusses each, the most commendable were Comtesse de Chabillant, Madame Charles Wood, General Washington, General Jacqueminot, La Reine, and Madame Vidot; and in that of Mr. Vertegans, who was second, John Hopper, Triomphe d'Angers (a lovely carmine), Charles Lefebvre, and Prince Camille de Rohan.

Awards.—Twenty-four varieties, single trusses:—First, Messrs. T. Perkins & Sons, Coventry; second, Mr. J. Parker, Rugby; third, Mr. G. Batley; fourth, Mr. T. Hewitt, Solihull; extra, Mr. R. H. Vertegans. Twelve varieties, three trusses:—First Mr. T. Hewitt; second, Mr. R. H. Vertegans; third, Mr. J. Parker; fourth, Messrs. T. Perkins & Sons.

The Amateurs mustered in great force, and the competition for precedence was very strongly maintained. The awards are appended; and we select from the principal exhibits the blooms most worthy of mention.

Forty-eight varieties.—Rev. S. R. Hole:—André Desportes, which resembles in style Victor Verdier; Triomphe de Rennes, which was better on the second day than the first, having developed more fully in the interval; Souvenir d'un Ami (very fine); Gloire de Santenay; and Prince Camille de Rohan. Mr. Evans showed Anna de Diesbach, Comtesse de Chabillant, and Viconte Vigier. Mr. Hole's stand contained—John Hopper, Turenne, Alphonse Karr, Gloire de Santenay, Victor Verdier, Princess of Wales, Madame Vidot, Prince Camille de Rohan, Sophie de Coquerelle, Madame Furtado, Gloire de Dijon, Le Rhone, Caroline de Sausal, Maurice Bernardin, Coupe d'Hebe, Olivier Delhomme, Madame Bravy, Louise Magnan, Celine Forestier, Jules Margottin, General Washington, Madame C. Wood, Gloire de Vitry,



Wilhelm Pfitzer, Duchesse d'Orleans, Souvenir d'un Ami, Professor Koch, Pierre Notting, Auguste Mié, Maréchal Vaillant, Baronne de Heckeren, Charles Lefebvre, Triomphe de Rennes, François Lacharme, Lælia, Robert Fortune, America, La Brillante, Rubens, Baron Gonella, Senateur Vaisse, Vicomte Vigier, Devoniensis, Comtesse Cecile de Chabillant, Madame Clemence Joigneaux, André Desportes, Madame Charles Craplet. Of the twenty-four varieties, the finest were—Rev. S. R. Hole:—Gloire de Vitry, Souvenir de Comte Cavour, Gloire de Dijon, Juno, John Hopper. Mr. Hunt:—Baron Gonella, Comte de Nanteuil, Madame Craplet. Eighteens (three trusses), Mr. Evans:—Niphotos, Madame Victor Verdier, and Queen Victoria. The stands of Mr. Perry were of uniform merit, though it was evident the show would have suited him better had it been held earlier in the season. Through a mistake, Mr. Brown, of Elmton, had entered eighteen single trusses for this section, and although they were necessarily disqualified, they deserved and received great commendation. Twenty-four varieties, single trusses, open only to amateurs resident within fifteen miles of Birmingham. The Rev. P. M. Smythe:—Victor Verdier, Charles Lefebvre, Maréchal Vaillant, Madame Knorr, François Lacharme. The flowers in this stand were—Comte de Nanteuil, Baronne de Heckeren, Triomphe de Rennes, Maréchal Vaillant, Vanqueur de Gohiab, Maurice Bernardin, Anna de Diesbach, Madame Knorr, Charles Lefebvre, Céline Forestier, Louis XIV., Baronne Gonella, Jules Margottin, Beauty of Waltham, Acidalie, L'Eblouissante, Madame Clemence Joigneaux, Louis Margottin, John Hopper, François Lacharme, Victor Verdier, Senateur Vaisse, Vicomte Vigier. Mr. Brown showed Gloire de Santenay, (very fine); and Coupe d'Hébé. Twelve varieties—single trusses, open to amateurs within fifteen miles of Birmingham—Mr. Brown:—Madame Caillat, (fine); Gloire de Santenay, Louise Magnan, and La Reine, (fine). Rev. P. M. Smyth:—Anna de Diesbach, Vicomte Vigier, and Baron de Noirmout. Mr. Brown's stand contained—La Reine, General Jacqueminot, Comtesse de Chabillant, Duchess of Norfolk, Madame Vidot, Beauty of Waltham, Anna de Diesbach, Gloire de Santenay, Louise Magnan, Madame Caillat, Triomphe de Rennes, Senateur Vaisse.

Awards.—Forty-eight varieties, single trusses: First, Rev. S. R. Hole, Newark; second, Mr. S. Evans, Arbury, Nuneaton; third, Mr. C. J. Perry, Castle Bromwich.

Twenty-four varieties, single trusses: First, Rev. S. R. Hole; second, Mr. Ebenezer Hunt, Leicester; third, Mr. E. Sage, Gopsall Hall, Atherton; equal fourth, Rev. P. M. Smythe, Solihull, and Mr. S. Evans, Arbury, Nuneaton.

Eighteen varieties, three trusses: First, Mr. S. Evans; second, Mr. C. J. Perry, Castle Bromwich; third, Mr. E. Hunt.

Twelve varieties, single trusses: First, Mr. E. Hunt; second, Rev. S. R. Hole, Newark; third, Mr. E. Sage; fourth, Rev. P. M. Smythe, Solihull.

Twenty-four varieties, single trusses (open to amateurs resident within fifteen miles of Birmingham only): First, Rev. P. M. Smythe, Solihull; second, Mr. William Brown, Elmton Hall, near Birmingham; third, Mr. C. J. Perry, Castle Bromwich; fourth, Robert Garnett, Esq., Moore Hall, Sutton Coldfield.

Twelve varieties, single trusses (open to amateurs within fifteen miles of Birmingham): First, Mr. W. Brown; second, Rev. P. M. Smythe; third, Mr. C. J. Perry; fourth, Robert Garnett, Esq.; extra, Mr. T. B. Wright, Perry Barr, and Mr. John Moor, Sparkhill.

No class was more satisfactory than the contributions of amateurs resident within four miles of Stephenson Place, Birmingham, as it afforded an illustration of the extent to which Rose cultivation is spreading in the neighbourhood, and the judgment by which it is directed. The stands, as a whole, would have been excellent for any locality, but they were still more extraordinary when it is remembered that some which took prizes (as for instance those of Mr. Field) were grown at Balsall Heath. In the first-prize stand of Mr. Cooper was the magnificent Tea-scented variety, Madame Willermoz, a white with salmon-coloured centre. It also comprised—Gloire de Dijon, Le Rhone, Madame Willermoz, Jules Margottin, Comtesse de Chabillant, La Reine, Général Jacqueminot, François Lacharme, Madame Vidot, La Ville de St. Denis, Louise de Savoie, Madame H. Jaquin. In the successful collections for six varieties, Mr. Cooper had La Ville de St. Denis, and Queen Victoria; Mr. Mapplebeck, Senateur Vaisse, La Reine, Madame Wm. Paul, and John Hopper; Mr. Sansome, Céline Forestier and Gloire de Dijon; and Mr. Lloyd, Mlle. Bonnaire, Duchess of Orleans, and Senateur Vaisse.

Awards.—Twelve varieties, single trusses: First, Mr. C. Cooper, Mosely Wake Green; second, Mr. G. Dymond, King's Heath; third, Mr. E. W. Field, Balsall Heath; fourth, Mr. G. Sansome, Moseley; extra, Mr. W. B. Mapplebeck, Woodfield, Moseley.

Six varieties, single trusses: First, Mr. C. Cooper; second, Mr. W. B. Mapplebeck; third, Mr. G. T. Sansome, Moseley; fourth, Mr. John Moore, gardener to Thomas Lloyd, Esq., Sparkhill.

The offer of special premiums for Moss Roses brought only a small collection of very moderate pretensions, the single award being given to Messrs. Paul & Son, for the subjoined collection, of which Cristata, a good white Perpetual with a cluster of buds, was the most conspicuous:—Cellina, Gloire des Mousseuses, Bath White, Cristata, Baronne de Wassanaer, Perpetual White, Prolific, Aristide, Captain Ingram, Hortense Vernet, and Eugène de Savoie.

The new Roses were as usual interesting; but owing to most of the imported ones being over they did not include many of the present year.

The stand of twenty-four varieties with which Mr. Keynes gained the first prize included the following varieties:—Souvenir de Charles Montault, Madame Victor Verdier, La Phocenne, Sœur des Anges, George Prince, Lord Herbert, Paul Desgrand, Joseph Fiala, Alfred de Rougemont, Laurent Deseourt, Leopold Premier, Vicomtesse Douglas, Centifolia Rosea, Prince Henri de Pays Bas, Baron Adolphe de Rothschild, Alphonse Belin, Claude Million, Docteur Spitzer, Alpaide de Rotalier, Bernard Pallissy, Madame de Stella, Pierre Notting, Duchesse de Morny, Louise van Houtte. Souvenir de Charles Montault is a vivid and showy garden flower; and both Paul Desgrand, a dazzling red variety, and Centifolia Rosea, a bright clear rose, will no doubt be seen to better effect in a less dry season. Sœur des Anges is a had opener, but fine when it does open. George Prince is a good-shaped, free-blooming, and effective Rose; and Lord Herbert has gained for itself a good character this season. Pierre Notting, a blackish red with a violet tint, and Vicomtesse Douglas, a lilac, are both fine; while Docteur Spitzer presents a distinct shade of crimson, and is good in form. The following were included in the collection of Messrs. Paul & Son, who were second:—Louis van Houtte, Duchesse de Morny, Madame de Stella, Eugène Verdier, Madame Freeman, Baron Pelletan de Kinkelin, Emotion, Lord Macaulay, Jaune d'Or, Bernard Pallissy, Pavillon de Pregny, Claude Million, Alpaide de Rotalier, Madame Valenbourg, Duchesse de Caylus, Alphonse Belin, Alpaide Rosea, Triomphe de Villecermes, Lord Clyde, Maréchal Niel, Madame Boutin, Senateur Reveil, Seeding No. 11, Leopold Premier. Of Maréchal Niel we have already spoken in terms of eulogy. Alba Rosea, with a rose centre, full and fine in form, is a splendid Tea-scented sort, useful for pot culture; and Claude Million, a deep dark vermillion, is also pleasing. Duchesse de Caylus, a vivid carmine, introduced during the present year, is a vigorous grower and excellent in form. Jaune d'Or, as its name imports, is an addition to the yellows; and Duchesse de Morny, a clear rose colour, with silvery under petals, though a little thin, may be expected to take a prominent position; and Pavillon de Pregny, a dark violet crimson, with white under petals, is very distinct. Mr. Bailey of Rugby was third; Messrs. Perkins fourth.

The first prize for six trusses of a new Rose sent out in 1863-4 or 5 was adjudged to Mr. Keynes, for six blooms of Prince Henri de Pays Bas, a very bright crimson, full and globular in form, and Duchesse de Morny; the second to Mr. Cranston, for Madame Boutin; and the third to Messrs. Paul & Son, for Madame Victor Verdier, a vivid carmine, and reckoned one of the finest Roses of last year.

The designs for dinner table decorations formed a new feature; and we hope in future years to see a considerable increase in the number of competitors. Those sent on this occasion were arranged with admirable taste. The bouquets were an improvement on what we have hitherto seen, but did not quite come up to our expectations.

Awards.—Best basket or vase of Roses and Rose foliage: First, Miss Cole, Birchfields; second, Mr. Evans, Arbury; third, Mr. Parker, Rugby; extra, Mr. R. H. Vertegans.

Best bouquets for the hand, entirely of Roses and Rose foliage: First, Mr. J. Cranston, Hereford; second, Mr. J. Parker, Rugby; third, Mr. R. H. Vertegans; fourth, Messrs. Paul & Son.

Best design for dinner-table decoration (open to ladies only). Roses to be the only flowers used. Foliage not restricted to that of Roses, but left to the taste of the designer. First, Mrs. Brewer, Broad Street; second, Miss Cole; extra, Miss Garnett, Moor Hall, Sutton.

A number of ornamental plants for the decoration of the Hall were kindly lent by Mr. E. Wright, Mr. Bent, and Mr. Joh Cole; and, in addition, Mr. E. W. Field, of Balsall Heath, lent a very praiseworthy stand of Verbenas, for which no other reward was available than the favourable notice they obtained. The decorations were arranged by Mr. Cole and Mr. Tye, and were all that the most fastidious could desire.—(Midland Counties Herald.)

## DICKSON'S "FIRST AND BEST" PEA.

WITH reference to our new early Pea First and Best, it is due to the numerous friends who last season spoke so highly of it in their published testimonials, as well as to ourselves, that we should endeavour to remove the incorrect impression regarding its character, which Messrs. A. Henderson & Co., of Pine Apple Place, London, have unwittingly created by their published report on the new early Peas.

We obtained our First and Best Pea some six years ago from a gardener in this neighbourhood, and in successive trials season after season we found it some days earlier than the earliest known Pea. In 1863 we grew it extensively for the purpose of sale, but afterwards hesitated to send it out until we had subjected it to a scrutinising and decisive trial. We therefore sent a package to some fifty of the leading gardeners and others throughout the country, and from all of these the most unequivocal testimonies to its earliness and excellence were received, many of which were published in our seed catalogue for the current year. These testimonies were so satisfactory and decisive, that we resolved to send it out last spring, but as the seed had been held over a year, for the reason



before stated, this circumstance will to a great extent account for its not having exhibited still earlier characteristics than it has already done. In our own trial grounds, in two different localities near Chester, the one sheltered, warm, and early, the other exposed, cold, and late, our First and Best Pea was in each case about two days later in blooming and coming into bearing than its two rivals, but the crop was much heavier, and the pods larger and better filled. We found Sutton's Ring-leader and Carter's First Crop to be identical in every respect, and inclined freely to sport, whereas our own was very true. First and Best is also a little taller, and a more vigorous grower; and while it yielded three and four copious gatherings, but barely two pickings could be obtained from the two former. Dillstone's Early was some days later than ours, and Sangster's No. 1 and Daniel O'Rourke later than Dillstone's. Carpenter's Express we were unable to obtain; Eley's Essex Rival appears to be a good second early Pea, coming into bearing between our Early Favourite and Champion of England. We are growing our First and Best Pea very extensively this season, as we are certain it will be found and pronounced to be the best early Pea in cultivation.—FRANCIS & ARTHUR DICKSON & SONS, 106, Eastgate Street, Chester.

### GOLDEN VARIEGATED BALM.

By what means can the golden blotches in Golden Balm be preserved? In my borders it looked promising when first put out, but now it is quite green.—DISAPPOINTMENT.

[The Golden Balm preserves its colour best in poor un-manured soil. Rich loamy soil is almost sure to send it back to the original green. There is always a tendency to this when much transplanted. This and golden-striped Mint always look best in spring. We have given them up as ornaments, because towards autumn in heavy ground they either became green or had a dirty variegation worse than green. In light poor soils they do better.]

### NEW ROSES OF 1865.

I AM always delighted with a "Rose gossip" from "D." of Deal. I agree with him it takes time to find out really good Roses, especially if you are to speak of endurance and general good manners under adverse circumstances. Let it be understood that Roses are sent from France to England upon sufferance. Roses are, more or less, volatile things. It takes years to find out Roses that are good at all points, and good under adverse circumstances. To those previously recommended by me, I now beg to add Leopold the 1st, a fine, full, and well-shaped red Rose; also Duc de Wellington (Granger), a most beautiful Rose. It is thus rightly described: "Very vigorous, large, vivid velvety red, dark shaded, fiery to the centre." I have two blooms out. They are very beautiful. Duchesse de Caylus, Rushton Radclyffe, and Duc de Wellington, are the three best of 1865 as yet, and I can conscientiously recommend them. As you may have new subscribers, and as memories are frail, I repeat the names of those I have recommended lately in the Journal:—Madame V. Verdier, Pierre Notting, Lord Macaulay, Lord Herbert, Lord Clyde, Rushton Radclyffe, Duchesse de Caylus, Duchesse de Morny, Eugène Verdier, and Baronne Pelletan de Kinkelin, to which may now be added Leopold the 1st and Duc de Wellington. You cannot burn your fingers with the above. I must, however, make one observation with regard to Lord Clyde—namely, sometimes it is rough at its edges.

To-day I have sent a lot of Roses to Mr. Kent for his Blechingly Cottagers' Allotment Exhibition. I was much tempted to send two blooms of the Duc de Wellington; but I resolved at last to chop up the plant, and bud briars with it. I have two very healthy plants, and good growers, about to bloom—namely, King's Acre and Achille Genod; of these more in a few days. I have had one very nice bloom of King's Acre, but wish to see it once more. The last two are of excellent growth and habit. The last is evidently a seedling from Jules Margottin. As yet, not one of its children is equal to it, neither Victor Verdier, L'Esmeralda, or Bernard Palissy. Phoo! "Jewels," as we call him, is not going to the rear yet awhile! I have many infants yet to introduce to your readers. I will never tell you what Rose is bad, but if I say it is good you may buy.

I never knew Roses sport so as they have done this year. Had

the blooms been bad, "abnormity" would not have surprised me. I never had such a good season. Prince Léon and Lord Macaulay have occasionally been striped exactly like Triomphe d'Amiens. Alfred de Rougemont has been brilliant crimson and deep purple on the same plant. One of the blooms of Triomphe de Rennes was deeply red-tinted. I have read what is said of Mlle. Bonnaire. It is not a good grower, but no white Rose is equal to it. Its being a sport from Général Jacqueminot has much amused me. If a man marries a white woman, and she produces a "little black boy with curly hair," I fancy that he would hardly be satisfied with the explanation that it was "a sport!" Excepting Sénateur Vaisse, there has not been one Rose raised from this old sporting General that has been worth a "stump!"—W. F. RADCLYFFE, Tarrant Rush-ton, Blendford.

### SOFTENING HARD WATER.

Mr. Robson has called attention to the unsuitableness of hard water for plants; and, doubtless, almost all spring waters possess in a greater or less degree the property termed hardness—a property which depends chiefly upon the presence of super-carbonate of lime, or of sulphate of lime, or both; and the quantity of these earthy salts varies very considerably in different instances. Mr. Dalton long since demonstrated that one grain of sulphate of lime contained in two thousand grains of water converts it into the hardest spring water that is commonly met with. If about twenty drops of a solution of oxalate of ammonia added to half a wine-glass of water causes a white precipitate we conclude that the water contains lime. By means of this test one grain of lime may be detected in 24,250 of water. If this test occasions a white precipitate in water taken from the pump or spring, and not after the water has been boiled and suffered to grow cold, the lime is dissolved in the water by an excess of carbonic acid; and if it continues to produce a precipitate in the water which has been concentrated by boiling, we then are sure that the lime is combined with a fixed acid. Hard waters may in general be cured in part by dropping into them a solution of sub-carbonate of potash. If the hardness of water be owing to the super-carbonate of lime only, mere boiling will greatly remedy the defect; but if the hardness be owing in part to sulphate of lime, boiling does not soften it at all. When spring water is left exposed in shallow reservoirs for some time, part of the carbonic acid becomes dissipated, and part of the carbonate of lime falls to the bottom. Such reservoirs, however, should not be constructed with bricks, unless covered with cement, as they render soft water hard.

The question of soft or hard water probably affects some of your worthy contributors much more than others. For instance: Mr. Fish, having a rather stiff retentive soil, would not require a tithe of the water for out-door purposes that Mr. Robson would with a light soil and chalk subsoil; but, of course, the houses would all require the same amount of watering. I therefore think that any information on the subject would be acceptable to a large number of your readers.

I should much like to know whether the sub-carbonate of potash is at all injurious to Pears when used in sufficient quantity to soften hard water, or to any class of Pears, and whether the water would not require modifying in temperature after being rendered soft by a solution of sub-carbonate of potash.—F. FRITTON.

### WHAT IS A TRUSS OF FLOWERS?

Will you explain what is meant by a "truss of Roses, three blooms on a truss?" The Glasgow and West of Scotland Horticultural Society offered prizes for a certain number of trusses of Roses. For one of the prizes I competed, exhibiting three blooms growing from the one shoot. The prizes were in every instance awarded to bunches of three separate blooms tied together. Was this correct?—A. ROBERTSON.

[In the prize list quoted from by our correspondent, the words are, "Six Roses, distinct varieties, to be shown in trusses of three blooms each." To satisfy this condition the three Roses of each variety exhibited ought to have been in a truss. "Truss" is the florists' name for what botanists call an umbel, in which several flowers have their stalks united at one common centre, or, as in Roses, from one common stalk. Three separate Roses tied together are not a truss, but a bunch.—Eds.]



## MINIATURE ORCHARD-HOUSE.

With this you will receive the framework necessary in the erection of a miniature orchard-house, sufficiently large to give you a general idea of the principle of construction.

The framework consists of four straight galvanised-iron rods 3 feet in length, and ten of slighter thickness bent at a right angle, about 2 feet from one end.

I shall suppose you are about to erect a house of which the slope of the roof from ground to apex shall be 24 inches. To do this, I shall presume you have at hand six sheets of glass 24 inches long by as great a breadth as you have a choice of, not exceeding 30 inches, and of a weight per square foot of not less than 21 ounces. If the sheets are as large as 30 by 24, a weight of 25 ounces will be preferable. The slope of the roof required I shall suppose to be an angle of  $45^\circ$ , and the house a span roof, covering therefore a base of about 34 inches (see *fig. 1*). If the erection is to be a very lengthy one you are not

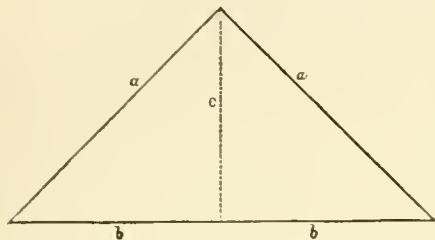


Fig. 1.

*a, a*, Glass, 24 inches; *b, b*, 17 inches = total base, 34 inches.  
*c*, Perpendicular = 17 inches.

necessarily confined to a flat surface; some of mine run up and down a slight fall in the ground, and would equally suit a hill-side. For the experiment try a flat surface.

Suppose *A B C D* (*fig. 2*), to be the plot of ground to be covered, the lines *a c* and *b d* being each 34 inches, and the dotted line

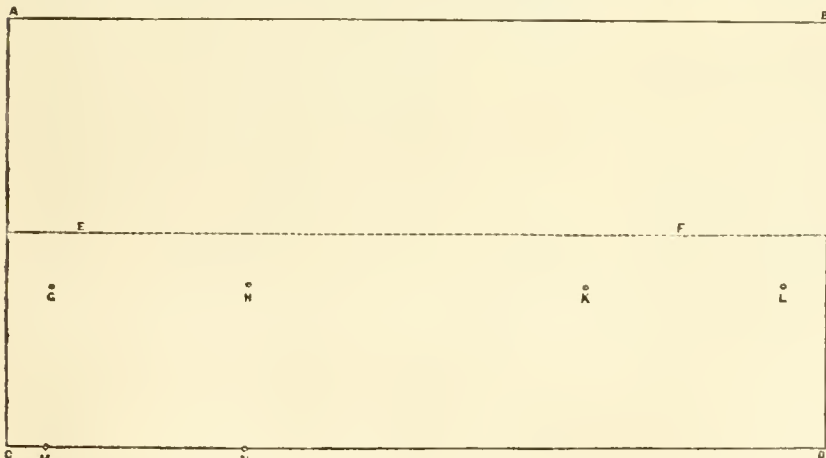


Fig. 2.

to represent an imaginary line drawn from end to end equidistant from the sides. 4 inches or so from the line *a c*, and 5 inches or so from the line *E F*, fix the point *G*. 16 inches to the right of *G*, and at the same distance from *E F*, fix the point *H*. I say 16 inches on the supposition that your sheets are 24 by 24. If the second dimension is not 24, then alter the distance between *G* and *H* to the length of your sheet less 8 inches. Now, beginning at the other end of your plot, measuring 6 feet or so, fix two other points, *K* and *L*, on like principle to *G* and *H*. Fix a wire similarly about opposite *H*, say at the point *X*, taking care that before raising the longer half of the wire, it shall be so inserted as to point towards *c*. This wire of course must be raised so as to press upon the central sheet at the overlap.

A few minutes' practice will tell you more of the fixing of these wires than I can in an hour. The wires I send are unfortunately too powerful and therefore needlessly expensive,

but by taking the following variable properties into account you may make your wire suit its purpose:—

1. Thickness and elasticity of wire.
2. Angle at which wire is bent.
3. Depth to which the wire is sunk in the soil.
4. Tenacity of the soil.
5. Angle of the slope of the roof.

No. 2, the angle of the wire is the most readily convenient if you find your power of pressure either too weak or too strong.

Your wires fixed on the side *c d*, you can now proceed to lay your sheets on the other side. I could have done all the foregoing four or five times over whilst I have been telling you how to do it.

As for the gables, the most elegant are triangles of glass slightly larger than the opening at the ends, but this is not needful, save that it is also cheaper than most other plans. I shall suppose that in your experiment you use a square sheet, as in *fig. 3*.

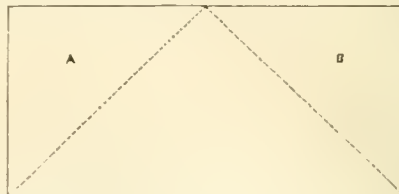


Fig. 3.

The odd corners can be trimmed off with the diamond, and the pieces *A B* used as gables for smaller houses for Radishes, Carrots, &c., or for cuttings or seedlings. I have all sizes, from Pea and Potato houses down to Tom Thumb size, with a slope of roof of only 4 inches.

In fixing the gables use the remaining two wires, one to each, using the wires as before, but in the case of the gables inserting them not quite perpendicularly, or else at the distance of a few inches from the glass.

At each of the points *G, H, K, L*, (*fig. 2*), push one of the straight iron rods perpendicularly into the ground about half its length. Take now one of your sheets of glass, and standing in

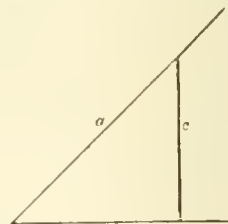


Fig. 4.

*a*, Glass, 24 inches.  
*b*, Ground, 17 inches.  
*c*, Iron rod.

front of the plot put one end at the point *c*, (*fig. 2*) and the edge along the line *c d*, with a hammer or mallet in your right hand gently tapping the tops of the rods *G* and *H* till such time as by resting the sheet against them you get the slope of  $45^\circ$  or any other required angle. (See *fig. 4*.) Repeat this by laying

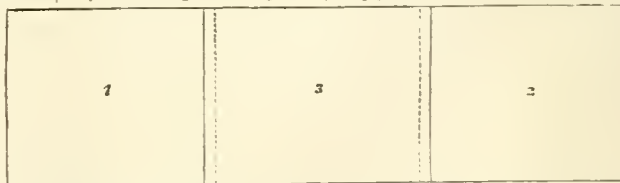


Fig. 5.

another sheet against the iron rods at *K* and *L*. Take now sheet No. 3, and place it so that it shall overlap sheet 1 and 2 about an inch and be supported by them. (See *fig. 5*.)



So much for one side of the house. You will see that no iron rods are required for the other side, on which the sheets have simply to be placed along the line *a b*, their upper sides resting upon the edge of the sheets of the other side of the house, leaving about an inch overlap as under. (See *fig. 6*.)

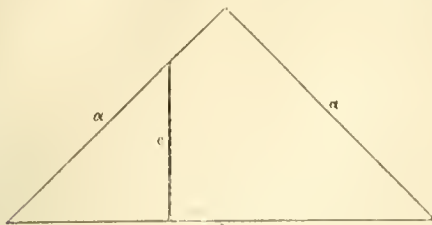


Fig. 6.

*a*, Glass. *b*, Ground. *c*, Iron rod.

However, before meddling with the side *a b*, we must first properly fix the side *c d* as follows:—At the point *m* (*fig. 2*) about opposite the iron rod *c*, and close to the edge where the glass meets the ground, insert perpendicularly into the soil the smaller half of one of the bent wires in such a position that by pressing it down to the angle the longer half shall lie close along the lower edge of the glass pointing in the direction of *d* (*fig. 7*.)

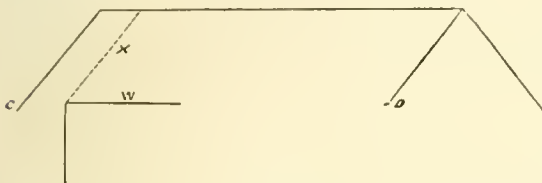


Fig. 7.

Now gently raise the longer end of the wire *w* till you get it in the position of the dotted line *x*.

For ventilation I have nearly a dozen modes all in use to-day, within view of my desk, and, except in large houses, none of them adding one penny to the expense. When you recognise the immense power of the bent wires, some of these modes will at once occur to you. Meanwhile spare me the naming of them till I hear your opinion of the main plan of erection.

I may say in advance of objections that I have never lost a sheet of glass from wind or frost, my only loss occurring from incautiously handling the wires before I knew their power. If properly fixed they never slip. Of course the overlap at the ridge should, in windy situations, face the mildest quarter.

I have given measurements, but after a little practice they are very immaterial. I stick my rods and wires in any way to a few inches, and make them accommodate each other by raising or lowering as seems required.

The fixing of the gables will best illustrate what I meant in a former letter by metallic reflectors. The backs of my lean-to are sheets of glass, upright, with the metallic reflector (of which further if you wish it) coating the surface. This acts as a substitute for a low brick wall, and I have a theory that solar light has properties in relation to vegetation when reflected as *light* very different from those of solar heat radiated from substances that have absorbed it.

I feel quite sure that using four-foot brick walls as a back, cheap sheets of very large glass might be specially made to render Peaches frostproof, but this is travelling a little out of the region of my own practice.—Wm. McGOWAN.

#### A NEW HEATING APPARATUS.

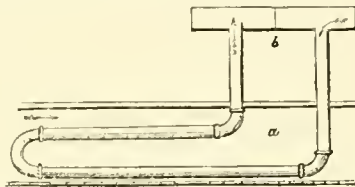
DURING our brief visit to Washington, we stopped for a few minutes at the garden of the Agricultural Department, which is in charge of Wm. Saunders, Esq., one of the most accomplished of American horticulturists. Since our last visit here, a new propagating-house has been erected, combining advantages in the way of heating desired by Mr. Saunders, that are at once efficient and economical.

It is well known that the old mode of flue-heating has been in a great measure superseded by the hot water system. One

great drawback against its more general introduction, is its expense. Boilers and pipes are costly, particularly so since the advance in the price of iron; frequently it costs more to procure and fit up the apparatus, than it does to build the houses, and, after all, there is a great waste of heat passing off at the chimney.

For producing what is technically known as bottom-heat in a propagating-bed, there is no way of distributing warmth over a large surface so equally and economically as through water. The conducting power of water gives it the superiority in this respect, while it must be admitted that so far as economy of fuel is concerned, the old flue has the advantage. To combine the two modes has long been considered a desideratum, and this seems to be done in a very effectual manner in the house alluded to. The house is about 80 feet in length, divided by a partition across the middle. In one end is a propagating-bed, 35 feet by 8½ feet. The other end is fitted up with staging for pots, the object being to heat the bed without heating the atmosphere further than will be provided by radiation from the surface of the bed, while the atmosphere of the other portion is heated by a flue.

The furnace is placed opposite the middle of the house, and has also some peculiarities of construction, which we did not have fully explained, but our attention was attracted to the simple mode of heating the water in the tank which underlies the bed. Within a few feet of the furnace, a small piece of bent four-inch pipe is inserted with two arms, one of which is the flow and the other the return. This pipe altogether is about 15 feet in length, 9 feet of which lies in the flue; and the heat, as it passes this pipe, is sufficient to maintain an average temperature of 110° in the water, with moderate fire. If required, we understood that it could be raised to 120° with ease. The



shape of the pipe is as shown in this sketch, the bent portion being in the flue, which is represented by the horizontal lines. The simplicity and cheapness of this arrangement is manifest. Any plumber can make the boiler (for such it really is), and any labourer can fix it in its place. Its cost can always be readily ascertained, being little more than the cost of so many feet of three or four-inch pipe. It can also be extended, and several tanks heated from the same fire. A side tank 40 feet by 2 feet is in this case warmed by a small piece of two-inch pipe, let down through the top of the same flue that contains the four-inch pipe above illustrated.—(*Sorgo Journal*.)

#### VINES FAILING—RED SPIDER.

We have an old vinery heated by flues. We formerly had prodigious crops of Grapes from a double set of Vines, half planted outside, and half in, those inside against the back wall. Some time ago we changed our gardener, and as the old Vines were in a bad state, and had not borne well lately, we thought it right to replant the house, which was done, putting double the number of Vines in the outside border, and leaving the old ones inside, to continue bearing until the young Vines were strong enough to fruit. Last year we had a very good crop on the old Vines, but this year all the Vines had the red spider, and the young ones much the worst. Our new gardener says it was owing to the flues being so close to the openings where the Vines come in, and wants to have the flues lowered a foot all round the front of the house; but before we have this done, I thought I would ask your advice, as the old gardener always obtained as good Grapes as to size and quality as any in the neighbourhood. The Vines come into the house just 10 inches above the flue. The Grapes were started last year the middle of January.—F. W. S.

[It is just possible that were you to lower the flue you might much injure the draught. The hot weather has been much in favour of the red spider this season, and it will easily obtain the mastery if not combated with a little sulphur, and plenty of moisture. Ten inches is a good distance for the Grape



Vines when they enter the house to be from the flue. Were we in your case, we would let the flue alone, but we would have a dozen of evaporating-pans, zinc or earthenware, placed on the flue, and these we would keep filled with water, and a handful of sulphur in each, renewing it now and then, until the Grapes approached maturity, when little fire heat was necessary. We would have more faith in this than merely lowering the flues a foot. That, however, would secure a more uniform heat to the Vines. On a flue within 2 inches of the Vine stems we placed a sheet of zinc, separated from the flue by half an inch, and coated the upper part of the zinc with sulphur. This divided the heat better, and the zinc was never too hot for the sulphur fumes. We have then no objection to the sinking of the flue, but we would try the evaporating-pans.]

### MEN AND MANURE REQUIRED FOR A GARDEN.

Do you consider the winter dung of eight horses, from November to April, sufficient for a kitchen garden of an acre, two Melon-lights, a hotbed for cuttings, and two lights for Potatoes?

Also, how many men would be required for a garden of same extent—a vinery 35 by 16 feet, a small Heath-house 16 by 10 feet, a conservatory 40 by 18 feet, two terrace gardens 90 by 30 feet, kept with bedding plants? The garden has no wall.—H. B.

☞ [We consider the dung amply sufficient, but most likely care will be needed to prevent the later-made dung from fermenting, in order that it may come in when required for linings after April. Placing it thin will secure that object, and then it may be placed together to heat when required. Instead of five we do a score or two of lights with half the quantity, but, then, much care and economy of material are required.]

Roughly we should estimate your place requires about three men; but that will much depend on the way your terraces are kept or planted. As there are no walls there will not be much to do in winter. We have a great dislike to take men on for the summer; but there are cases in which men can obtain regular work in winter and can turn out in summer, and they just suit many gardens where there is less to do in winter. We have known places about your size tidily done by two men, and we have known four and five employed, and plenty to do. It so much depends on the plants grown and the finish of the keeping. For instance: in a terrace garden we know a border of *Cerastium* has been passable for some three years, and but little touched, but it has no artistic finish in comparison with another border planted every season, and nipped and clipped some half a dozen times during the summer.]

### BROMUS SCHRÖDERI, ALIAS ANTHISTIRIA SPECIES.

As I have had some experience with this species of Grass, permit me to occupy a small portion of your columns in giving it. In January, 1864, I was in New South Wales, and had the pleasure of meeting with a large landed proprietor living near Sydney, who is not only an extensive cultivator, but has much of the energy of the "old country" in his experiments. He has cultivated this Grass extensively for several years, and has found it in his hot and dry neighbourhood a most valuable forage Grass, cutting heavy crops twice a-year. I saw one enclosure cropped with it, and was much struck with its vigorous growth. On making inquiries about it, I found its popular name at Sydney was "Californian Prairie Grass." I happened to meet with an old Californian digger who assured me that it was very common on the hills of California, and was not injured by the severest frosts. A botanist friend at Sydney said that it was a species of *Anthistiria* (Willdenow), and recognised as such by Leichardt. I did not hear of it in Queensland or at Melbourne. My English experience of it has gone thus far—I returned from Australia in the autumn of 1864, and brought with me a quantity of seed, which I sowed in October, the plants came up in November, and although so young and tender, they stood through the rather severe winter of 1864-5 well. I had early in the present summer a good crop of its Oat-like seed, and after cutting it when thoroughly ripe, the roots have put forth a promising crop of forage. I have read the advertisements of the "*Bromus*" (which I believe to be the same as my *Anthistiria*), at 1s. a-packet with some amusement, for I could have reaped a tolerable harvest of shillings had I not thought it more prudent to see how it suits our climate before offering it

for sale. I may add, that in New South Wales it seemed to give abundant forage, for the crops I saw were, as far as my memory serves me, 2 feet high, and very succulent. The proprietor above mentioned is a large dairy farmer, makes much cheese, and finds this Grass very nutritious for his stock. It seems to be much earlier than Italian Rye Grass, and may prove a very valuable addition to our early-spring fodder.

I almost fear those people who disbelieve the Cambridge-shire transformation of Oats into Barley will smile when I state the fact, that some roots of this Oat-Grass, the flower-stems of which I cut off to observe the effect on the forage, if thus treated have thrown up ears of Barley—odd, but true, for the roots were taken up, washed, and found intact, not being wedded to a stem of Barley, which I at first suspected. As to its perennial character, I can testify as to the variety I possess being so in New South Wales, for I saw one enclosure which had been laid down with it five years. The crop was abundant. From this source my seeds were gathered.—JOHN RIVERS, *Sawbridgeworth*.

Your correspondent doubts the hardness of this forage plant. A gentleman who imported it from South America to Australia some years since, lately informed me that its being hardy was to him one of its greatest recommendations; and added, as the result of his experience, that spring sowing did not prove its utility, but that he had been in the habit of sowing in the autumn for winter food for stock, and, notwithstanding the cold at that season, it proved perfectly hardy—indeed, of rapid growth; and coming into use when there is no other green food attainable, he considers it one of his most valuable plants for winter forage.—C. H. S.

### THRIPS ON PEACH TREE LEAVES—PRESERVING FINE NET.

BE so good as to inform me in your next Number what causes the Peach and Nectarine leaves which I now enclose to look so silvery. The leaves are not at all curled, and the trees are healthy in other respects. They are growing in an orchard-house, and are regularly syringed. I have noticed on the leaves many insects such as I now enclose. Do they injure the trees? If so, what is the best way to get rid of them?

Can you inform me the best way to treat Nottingham cotton net, not stiffened, one-sixth-of-an-inch mesh, so as to preserve it from the effects of the weather? What process does net go through that is tanned?—B.

[The insects on your Peach trees are the thrips, but not the worst kind to eradicate. Two tolerable smokings with tobacco and a good syringing would most likely vanquish them. These little insects give the silvery appearance to the leaves, increased a little by water resting on them when the sun is powerful. If you dislike smoking, wash the leaves with quassia water of the strength frequently mentioned, or with gum or glue water sufficiently strong, and yet weak—just enough that when you dip the finger and thumb in it there will be felt the least stickiness as you pull them asunder when the liquid is cool. For this purpose glue or gum water fastens and kills the insects, and a good syringing in a day or two removes them all. We have heard people complaining about insects, and submitting to great annoyance, when a small painter's brush and a little gum or glue water would have enabled them to go over every leaf of the plant. The same principle is illustrated every day in a garden, such as when a man plods and treads backwards and forwards for a fork or a hoe, when, if he had used the natural tools with which Providence had gifted him, he might have done all the work and saved much shoe-leather. A gentleman told us the other day, that if a job required three tools to do it nicely in his place, it required three journeys to the tool-house. Just so with insects. A brush and the fingers used in time might dispense altogether with a number of applications. A vast improvement would be effected if it were once established as a cardinal truth, that if once insects obtain the mastery it is lost labour, lost time, and lost money to attempt to clear them away. The best remedy is burning the whole lot. We think a little tobacco or a little gum water will make our correspondent's trees all right.]

We are very doubtful of the success of any means of rendering Nottingham netting more enduring. Tanning it would be attained by placing it in a tanpit like netting. Steeping in oil with a little sugar of lead is advocated by some persons;



but after some experience with this netting, with calico, and other materials, we have come to the conclusion that all attempted means of preservation are only so much labour and money thrown away. All such preparations render the material more brittle and liable to crack; and we do believe that if kept as it comes from the manufactory, and put away in a nice dry state, it will last longer than when treated with preserving liquids, &c. That is our candid opinion after considerable experience.]

### MILDEWEED SEEDLING PINUSES.

I HAVE had some heavy losses this year among my seedling Pinuses, from what appears to me to be a kind of fungus attacking the young growth. I have tried various means to prevent it, such as keeping dry, giving plenty of air, &c., but to no purpose. Perhaps some of your readers can give me information how to remedy the evil.—T. W. W.

[Our advice is to prick them off as soon as they appear above ground, and use pure loam that has no streaks of fungus in it. Probably the seedlings, too, are growing rather crowded. Dusting them with flowers of sulphur from a large pepper-box may do good. Your chief remedy will be pricking-off as soon as you can handle them, and giving plenty of air after they begin to root freely.]

### NEW EARLY PEAS.

I BEG to give you my experience of one of the new early Peas sent out last spring. I sowed this season Dickson's First and Best, Dillistone's Early, and Sangster's No. 1, and found the first fully nine days earlier than either of the others; the quality is excellent, and it is a most prolific bearer, very hardy, a strong grower, and pods from top to bottom. I gathered a much larger crop from Dickson's First and Best than I did from either of the others, and for the future I shall sow only this for my first crop.—W. LAXTON, *Downton Castle Gardens, Ludlow.*

BEING much interested in the discussion on early Peas, which has appeared in your columns for the past few weeks, I may, perhaps, be allowed to say that I sowed Dickson's First and Best on the last day in February on a south border, and that I gathered the first dish on the 6th of June, and dishes on every subsequent day during the week. The crop was most prolific, the quality excellent, and the period they continued in a bearing state was much longer than any early Pea I have yet grown. I therefore do not hesitate to affirm that it is the earliest and best Pea in cultivation.—R. ROBERTSON, *Stoke Edith Park, Lebury.*

SEVERAL communications having already appeared in your columns respecting early Peas, and much difference of opinion seeming to exist among gardeners as to what Pea ought to be styled the earliest, I venture to give my experience this season.

On the 8th of February I sowed Paul's Tom Thumb, which Pea I had hitherto found to be the earliest, on a south border. Dickson's First and Best was sown at the same time on an open flat, and I gathered Peas from that variety on the 3rd of June, Tom Thumb not being ready for several days, although accommodated with so favourable a situation. I have never gathered so many Peas and so early from a single row as I have done this year, and I can confidently recommend those who have not tried this valuable new Pea to do so, as, in my opinion, it is very properly named the "First and Best."—G. POVEY, *Doveridge Gardens, Uttoreter.*

### TOMATOES.

A good medical authority ascribes to the Tomato the following very important medical qualities:—

1st, That the Tomato is one of the most powerful aperients of the liver and other organs; where calomel is indicated, it is one of the most effective and the least hurtful medical agents known to the profession.

2nd, That a chemical extract will be obtained from it that will supersede the use of calomel in the cure of disease.

3rd, That he has successfully treated diarrhoea with this article alone.

4th, That when used as an article of diet, it is almost sovereign for dyspepsia and indigestion.

5th, That it should be constantly used for daily food; either cooked or raw, or in the form of catsup, it is the most healthy article now in use.

*To Preserve Tomatoes.*—Professor Mapes says:—"If Tomatoes are slightly scalded and skinned, and put into bottles, and those set in boiling water for a few minutes, and corked and sealed, the fruit will keep as long as desired, and if eaten when first opened will have the same taste as when just picked from the vines."

Probably a better way is to peel the Tomatoes and boil slightly so as to expel the air, then put in heated bottles and cork at once. All depends on the exclusion of the air. The more perfectly this is done the longer fruit may be preserved.

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

ERADICATE all weeds before they shed their seed; pull them up by hand, as cutting them up with the hoe and allowing them to remain on the ground is nearly as bad as letting them stand; for although the seed may not be ripe at the time, the sun will soon ripen it. We allude particularly to Groundsel, Shepherd's-purse, and Sow Thistle. *Cauliflowers*, the main crop for autumn use should be immediately planted on a rich piece of ground. This vegetable, when planted at this season, becomes very useful after the Peas are over. *Cucumbers*, if they are required through the winter, seed should be sown, so as to have strong plants by the beginning of September. Carefully attend to those in frames, remove decayed leaves from the plants, and about twice a-week, in warm weather, give them a liberal supply of water. *Herb-beds*, where new ones are required may now be made; the ground to be previously manured and dug, slips of some sorts and rooted plants of others should be immediately planted in them. *Lettuce*, thin and transplant a sufficient quantity for use; keep them watered during the continuance of dry weather. *Onions*, the early-planted ones from the autumn sowing will probably be fit to pull up; if the weather is fine let them lie on the ground a day or two before they are housed, but if showery, they had better be laid in an open shed. *Parsley*, let a sowing be made immediately, if it was not done at the beginning of the month. If any has been left for seed let it be gathered as it ripens, or the best of it will be lost. *Peas*, earth-up and stick the advancing crops; the sticks from the early crops will now be out of use. *Potatoes*, plant some that have been saved from last year to produce new ones in the autumn; the rows may be closer together than for spring planting. *Radishes*, the Black and White Spanish should now be sown for winter use; also sow the common kinds for successional crops. *Spinach*, continue to keep up a succession, a larger space of ground may now be devoted to it, as it will not now so soon run to seed.

#### FRUIT GARDEN.

A systematic application of the principles of pruning should be continued to fruit trees during the summer months. The tendency to excessive luxuriance frequently exhibited by espalier trees renders the operation of disbudding, stopping, and shortening shoots more particularly essential. The whole principle of pinching is merely this—in the first place, to pinch all young shoots not necessary for the framework of the tree; secondly, to stop those shoots which threaten to overgrow their neighbours, by which means a due equilibrium of the branches will be maintained; and finally, having commenced a system of repression, to continue it in regard to lateral shoots which are developed by this system of stopping. Keep the Vines carefully tacked in, and the laterals constantly stopped; both branch and stem will be benefited by sharing abundantly the advantages of a free exposure. Let the free-growing shoots of Plums be regularly laid in, as they are apt to become awkward in training if left too long. The sooner the ground is prepared for Strawberries the better, let it be well manured and trenched to the depth of 3 feet.

#### FLOWER GARDEN.

Cuttings of Roses may now be taken and planted in a close frame in a northern aspect. In about a month they will have shown a disposition to strike root, when they may be taken up carefully, potted and plunged in a slight bottom heat. Treated thus they will make nice plants in a short time, and if kept under a slight protection during winter will fill their pots with



roots and be ready for planting out next May. Pink pipings put in early will now be ready for transplanting, and if so, this should be done at once, as they will require time to establish themselves so as to prevent frost from injuring them. If the situation ultimately intended for them is vacant, they may be planted there at once, but if occupied at present by something else, let the young Pinks be planted 4 inches apart on reserved beds in an open situation, the soil of which should consist chiefly of light loam. Climbers on walls must be attended to as they advance in growth, keeping the young shoots neatly laid-in. The climbing Roses will also require to be gone over occasionally for the purpose of cutting off decayed blooms, and any weakly old wood should be cut out at the same time to allow of laying-in the strong young shoots, which will bloom much finer next season than the old wood would. Any of the Perpetual-blooming Roses that have flowered very freely should be assisted by a liberal watering with manure water from the stable or farmyard tank; indeed, too much of this can hardly be given to any of the autumn-flowering varieties. Keep them free from insects, and have the budding finished as soon as possible. Also have Carnations and Picotees layered without loss of time. These are exceedingly useful border flowers, being so much prized for cutting; therefore, see that a good stock of them is prepared for next season.

#### GREENHOUSE AND CONSERVATORY.

Specimens that have matured their season's growth should now be more sparingly supplied with water at the root in order to promote the ripening of the wood. Some of the larger specimens will soon become exhausted, and preparations having been made securing a good reserve stock, such should be well attended to in regard to timely shifting, watering, &c. If such a course is duly followed up good specimens will always be at hand to fill up blanks occasioned by declining stock. Let young-rooted *Pelargoniums* be potted off in due time and protected. *Cinerarias*, too, whether seedlings or suckers, should have regular attention; those intended for autumn work should be potted forthwith. The forward *Achimenes* will have produced abundance of suckers, these taken off and encouraged in a propagating-frame will produce a very late display. Now, that *Camellias*, *Azaleas*, and other plants will be removed to their summer quarters out of doors, painting or other repairs required by any of the plant-houses will be more conveniently done than at any other season.

#### STOVE.

Let shading be used with caution. As plants should now or soon be ripening their young wood they want as much light, and even moderate sunshine as possible. In the case of Orchids this is especially necessary, in order that the young leaves and pseudobulbs may be thoroughly ripened. Plants already in this condition, or nearly so, should be removed forthwith to a cool-house, and care taken not to induce them at present to push again, as a fresh start would interfere with their flowering next year. *Dendrobium nobile*, and others of that class sufficiently advanced in growth, should also be moved to a house where they could have a moderate and steady temperature, abundance of air, and little water till their stems are ripe, and their flower-buds formed. Those Orchids which are still in a growing state should be placed in the most favourable positions, and encouraged by a nice growing temperature while the weather continues favourable for ripening and hardening any growths which they may yet make. Afterwards let them be put gradually to rest.

#### COLD PIT.

The stock here will probably require re-arrangement at this time, as some of the specimens having completed their season's growth will be better in a shady situation out of doors. Cut down *Pelargoniums* as soon as the wood is properly hardened, and keep them very sparingly supplied with water at the root until they start into growth, but sprinkle them overhead frequently, which will cause them to break more strongly.—W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

*Peas Blighted*.—Proceeded in dry days with removing stakes from the most forward Peas, and staking the later and latest-sown ones. A heavy fog a few mornings back was attended with a blight on the Peas. Many of the just-formed pods on the top, which would have come in for succession, became mottled and black, so as never to recover. We have suffered a

little on the height, but the crops have been next to destroyed in several gardens in the valleys. Some of the Potato haulm was also changed in colour. The fog was not at all cold, but there was something in it that thus injuriously affected vegetation. The soil was, perhaps, more than usually wet owing to the rains, but a short check to free evaporation could hardly have produced such a result. The pods seem much more affected than the haulm or foliage. A few fine rows of our favourite Pea, *Jeyes' Conqueror*, or *Ne Plus Ultra*, will be stopped in succession, but we have forked the ground, and as soon as drier will give a good soaking of sewage water to induce them to break afresh. Such blights derange our calculations as to autumn Peas for the table. Has the like happened in other neighbourhoods?

*Early Peas*.—We hope the trials on this subject will be productive of good. We want not an increase but a reduction of the number of varieties. The earliest with us this season is one obtained from an old gardener under the name of *Sebastopol*. We have already stated that we judged it to be the same as *Dillistone's Early*, but though sown the same day, and the appearance of both was much alike, we found we could gather a good dish of the *Sebastopol* some five days before we could gather one from *Dillistone's*, whilst the latter was fully eight days in advance of *Sangster's No. 1*. The last with us, however, is a wonderful cropper, and we use it, therefore, for our main early crop, following with that wonderful cropper, *Dickson's Favourite*, and the also fine cropper and sweet, though small, *Pea, Harrison's Perfection*. This last is a fine Pea for those who prefer flavour to size. In the latter respect it is nothing to *Veitch's Perfection*, *Mammoth*, and *Ne Plus Ultra*. A lot of others we have tried, we find nothing in the new in advance of the old. A few of the new earliest we have not tried, and, therefore, like many more, will note the results stated by so many correspondents. One fact we may mention, *Dillistone's Early* does well with glass laid over it, as in a cold earth-pit, or an open orchard-house. *Sangster's* and others do not come kindly. *Tom Thumb* as a dwarf does pretty well. From *Dillistone's* we had some nice early gatherings from a row sown near the front of an orchard-house, and allowed to spread to the front without stakes or support of any kind, pulling them up as soon as the crop was plentiful out of doors. A few days difference in the time of gathering is, therefore, a great point in early Peas, and well-authenticated statements of kinds sown near each other on the same day, and in similar circumstances, are very valuable. A few in an orchard-house do little harm, and they gratify the craving for this vegetable when they could not be had for two or three weeks out of doors. A good spoonful early is more thought of than a huge dish at a later time.

*Celery*.—Planted out as we got the trenches cleared of bedding plants, Turnips, Potatoes, &c. Plant as soon as we will, unless we give shade in bright weather, the *Celery* will not grow freely until helped by the cool nights of autumn. Our most forward *Celery* has been cleared of suckers at the roots, but has not needed tying as yet. With the exception of a sprinkling of dry earth from the sides after watering, we shall not do much, or rather nothing, in the way of earthing-up, until some three weeks before we wish to take it up for use, and even then will only do a little piece at a time, according to what we judge will be wanted. As stated some time ago, the bit-by-bit earthing-up is the fruitful source of bolted and run plants. We had not a single run plant last year, though we had it in use much earlier than we shall have this season. One word more. Those who grow for shows may feed it as much as they like to grow it of a huge size; but those who wish for sweet crisp *Celery*, and that which will stand good in the beds, or rows, until they want it, will be satisfied with smaller heads. Without a protecting awning it is scarcely possible to keep large heads when earthed and blanched from rotting in the centre. The most careful tying and banking-up will not prevent the rain and heavy dews trickling down into the centre of the plant, and then the size and the many layers of the footstalks of the leaves keep the water in the centre without allowing it to escape, and there in time it putrefies and rots the centre.

Pricked-out more Lettuces and Endive, and sowed successions of these, Onions, and Cabbage, the latter for the second spring crop. In a fortnight will sow again. Planted out Greens, Coleworts, and Broccoli, as we could find room, also a good breadth of Cauliflower for autumn use. What we plant afterwards will chiefly be taken up for winter use. The rains have done good to all these things, and those planted a week or



a fortnight have been greatly benefited by stirring the ground all over with a fork in a dry day.

**Cucumbers.**—These on ridges and on beds with little or no protection, having now had the soil well heated, will be benefited by being mulched with litter, or some hay grass, which will keep the fruit cleaner, and preserve a more equal condition of temperature and moisture about the roots. When nice Cucumbers, however, are wanted for the table, it is advisable to keep some in beds, pits, or frames, with glass over them, and where the soil can be kept warm. It is often advisable to give regular Cucumber-houses a rest during the summer. One of our most successful growers in a span-roofed house in winter and spring, allows his house to stand empty during summer, so as to be thoroughly sweetened and cleaned before he plants again in autumn. Few of us can thus spare glass; but even a few pot plants in such a place would be better than continuing on the Cucumbers, when they can be had very good in frames, &c. A few weeks ago we found traces of the disease in a two-light box, and as we had plenty more we cleared out and destroyed the plants, removed the soil, washed the frame, and planted again. It will be recollected that this spot and gum disease troubled us some years. In honesty we must add, that we do not know what brought it, or occasioned it, or what has happily kept it away. Nothing would conquer it when once it appeared. Fresh soil, frequent planting, and plenty of heat and air, just enabled us to get on. This season with the above exception we have seen nothing of it, but our treatment has not appreciably varied. We should be glad if some one would do what we are unable to do, after numerous experiments and much patient watching and noting—tell us the cause of, and the remedy for this disease, or these diseases. The spot on the leaf is worse than gum on the fruit. For Mushrooms, Tomatoes, &c., see previous Numbers.

#### FRUIT GARDEN.

Proceeded with stopping and shoot-removing as we could find time. Some Plums would be benefited by thinning if we could get at them. The dry weather kept the Strawberry runners back, and now they come freely. We have taken a lot with little roots and potted them singly in small pots at once; others we shall layer in small pots, both to be potted afterwards. As stated the other week, we will also repot a few of those fruited last in pots, to come in the earliest; we shall shake the most of the earth away, and repot firmly in six-inch pots, and give all the sun possible after they begin to grow. We are now planting out the first-fores, and expect a crop in the autumn. Many are showing bloom freely now. Our crop in the open air though tolerable, has not been at all up to the mark. We believe the fruit-buds were starved by dryness last autumn, and, therefore, the bloom was not sufficient this summer. We were, however, much better off than some of our neighbours. We believe the shortness of the crop was more owing in such circumstances to the peculiarities of the last summer and autumn, than to anything connected with the sterility of the plants. Even then, however, it would be advisable to take runners from fruitful plants, rather than barren ones, and those who wish to be extra careful and sure of fruit, may as well choose the second layer that comes from the plant, instead of the first. We can scarcely get such minutiae attended to, but a number of experiments years ago convinced us, that though the plants from such layers were less vigorous in growth, they were on the whole more distinguished for fertility.

**Vine-borders.**—In addition to the sprinkling of lime and soot alluded to the other week, threw a sprinkling of superphosphate of lime over them to be washed in by the rains, as the crops are as usual too heavy. All Vines like a little of this application of bones, and a good dose will not be so liable to injure as guano, and other concentrated manures.

**Melons.**—In addition to what has lately been stated, the chief points to be attended to now are—setting the fruit on young plants, keeping swelling fruit from contact with the soil, thinning the laterals and leaves sufficiently so that what is left may have plenty of light; and for fruit advancing to ripeness, making sure that the roots shall be moist, and the surface and the atmosphere dry. If we would have a first-rate Persian Melon, we must imitate the Persian atmosphere. The very heat and dryness of the air there give an extra relish and sweetness to the juicy Melon. A travelled gentleman said of a really good Melon, "Ah! to make it perfect it should be par-taken off under a broiling sun in Persia." No doubt this lends a charm to the Water Melons, which after many attempts have scarcely become at all relished in this country.

#### ORNAMENTAL DEPARTMENT.

Jobs here too numerous to mention, in changing plants, potting plants, training, &c. Stanhopeas have flowered all the stronger and better from having been dipped several times in manure water, and strongish manure water being poured gently on the baskets. In smallish baskets, tigrida and others have been large and fine. Our little plant-stove is becoming too cold for the Caladiums. They made the most splendid leaves when they were treated to a little bottom heat. No plants enjoy that privilege more. Give plenty of heat and moisture and a subdued shaded light, and fine foliage must be the result. The same may be said of the fine-foliated varieties of Gesnera zebрина, though less heat suits them. For hardwooded plants see previous weeks, and for some time back. The most forward Pelargoniums may now be cut back for making shoots. For early-blooming Cinerarias and Calceolarias see former directions and practice.

**Chrysanthemums** now require plenty of manure water, and the tops must never be allowed to shrivel or flag. Every time a plant becomes so, a layer of leaves will fade next the base of the stem, and thus make the plants bare at the bottom. Now is a good time to layer young shoots into small pots for flowering in a small dwarf state. If the top of the shoot is twisted before laying in the small three or four-inch pot, it will soon strike root. Tongueing in the usual way can scarcely be resorted to, the shoots are so apt to snap; but a good plan is to run a sharp penknife along the middle of a shoot for 2 inches in length, and then put in a small bit of pebble or a little chip of wood to keep the sides of the cut separate from each other. The exposure of the bark and alburnum soon secures plenty of roots, and when the pot is thus filled the connecting shoot can be cut off. Such dwarf little plants are useful for filling small flat vases. A vase of Chrysanthemums may thus be obtained of any conceivable height. The large pots and large specimens should now have plenty of manure water.

Out of doors the chief work has been mowing, machining, rolling, sweeping, &c. Two things may be worth special notice. The first is, the necessity from the rains, of training, and removing many leaves from flower-beds, so as to give more light to flowers and flower-beds. This was especially the case with strong-growing Scarlet Geranium-beds trained in the pyramidal form. These, though not equal to those at Bentley Priory last year, are still very fair, and all the ground completely covered. The removing of a few prominent leaves near the points of the shoots does not interfere with the clothing of the beds, whilst greater strength is thrown into the flower-stems. Of course, it must not be overdone, as the flower-stems, even, would be starved for want of correlative action. The second has reference to the treatment of several lines of Cerastium in front of ribbon-borders. We lately cut a long one rather wide, but as it was then only 1½ inch from the grass, we could do nothing but leave it straight. The others had been planted in May, and required some pegging and cutting to make it uniform and straight from end to end. When thus nicely finished, the Cerastium would be about 6 inches from the grass verge. We have already stated how nicely a row of Cerastium looked at Trentham, with rather more than that distance of black-coloured earth between it and the grass. Our soil is not black enough for the purpose, but we did not like to give up the idea of a contrasting colour between the green grass and the whitish Cerastium. We, therefore, had some dust coal passed through a sieve to get rid of a lot of the dust and the largish pieces, and by a little breaking and then washing all well in a fine sieve in a tub of water, much in the same way as the best sand is washed for cement, we obtained a lot of coal shingle ranging in size from that of small peas to that of fair-sized horse beans. The narrow strip of ground was levelled and beaten firm, and then the coal grit was laid thinly and evenly over it. At a little distance you might easily mistake the deep bluish-black for a narrow row of the darkest Lobelia speciosa. It certainly makes a better figure than the mere bare earth. We should like to see all flower-beds nicely bordered, and with something better than coal grit. Disapproving of mixing flowers and coloured earths or minerals in one uniform combination, there is not the same objection as to surrounding one figure, or group, or border, with some coloured earth, not much beneath the height of the row of plants next to them. In our case the bluish sparkling black diamonds come in as a narrow line between the green and the white. If not liked it could easily be put out of sight. The washing is essential, for, otherwise, rains would splash, and winds drive the black dust.

—R. F.



## COVENT GARDEN MARKET.—JULY 22.

MARKET well supplied. Soft fruit in excellent condition. Strawberries nearly over, Elton Pine being the only variety. English and West Indian Pines are both on hand in large quantities. Inferior samples of the former quite unsaleable except at a very low rate. Vegetables good and abundant, comprising the usual varieties; good Peas, however, are more inquired for, the sorts most in demand being Ne Plus Ultra and Champion.

## FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... $\frac{1}{2}$ sieve	1	0 to 2	0		
Apricots.....doz.	1	4	3	0	0
Cherries.....lb.	0	6	1	6	
Chestnuts.....bush.	0	0	0	0	
Currants, Red $\frac{1}{2}$ sieve	3	0	4	0	
Black.....do.	4	0	5	0	
Figs.....doz.	4	0	8	0	
Filberts.....100 lbs.	0	0	0	0	
Cohs.....do.	50	0	60	0	
Gooseberries..... $\frac{1}{2}$ sieve	2	0	3	0	
Grapes, Hambro.....lb.	2	0	5	0	
Muscats.....lb.	4	0	6	0	
Lemons.....100	5	0	10	0	

## VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....each	0	4 to 0	6		
Asparagus.....bundle	0	0	0	0	
Beans Broad.....bushel	3	0	5	0	
Kidney.....do.	3	0	5	0	
Beet, Red.....doz.	2	0	3	0	
Broccoli.....doz.	2	0	3	0	
Brus. Sprouts..... $\frac{1}{2}$ sieve	0	0	0	0	
Calbage.....doz.	0	2	1	6	
Capisciums.....100	0	0	0	0	
Carrots.....bunch	0	4	0	8	
Cardiflower.....doz.	3	0	6	0	
Celery.....bundle	2	0	3	0	
Cucumbers.....each	0	6	1	0	
pickling.....doz.	2	0	4	0	
Endive.....score	2	0	3	0	
Fennel.....bunch	0	3	0	0	
Garlic and Shallots, lb.	0	8	0	0	
Herbs.....bunch	0	3	0	0	
Horse-radish.....bundle	2	6	4	0	
Leeks.....bunch	0	3	to 0	6	
Lettuce.....per score	0	9	1	6	
Mushrooms.....pottle	2	0	3	0	
Must. & Cress, punnet	0	2	0	0	
Onions.....doz. bunches	5	0	0	0	
pickling.....quart	0	6	0	8	
Parsley..... $\frac{1}{2}$ sieve	1	0	1	6	
Parsnips.....doz.	1	0	2	0	
Peas.....quart	0	9	1	6	
Potatoes.....bushel	2	6	4	0	
New.....bushel	3	0	4	0	
Radishes doz. bunches	0	6	1	0	
Rhubarb.....bundle	0	2	0	4	
Savoy.....doz.	0	0	0	0	
Sea-kale.....basket	0	0	0	0	
Spinach.....bushel	4	0	5	0	
Tomatoes.....doz.	3	0	4	0	
Turnips.....bunch	0	4	0	0	
Vegetable Marrows dz.	1	0	2	0	

## TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

VINE LEAVES BULLATED (*J. Stevens*).—The warts on the back of the leaves are produced by rich feeding at the roots, with too much moisture, and closeness in the atmosphere of the house. Give more air, and more dry heat, and make your Grapes, and not the plants in pots, the chief object of your cultivation.

VINE AND MELON LEAVES MILDEWED (*A Constant Subscriber*).—There is a slight appearance of mildew on the Vines. Use a little flowers of sulphur. Give dry heat in moist weather, and plenty of air. Air and dry heat will, we hope, make all right. Use lime water in watering the Melons. You might strew some lime on the bed with advantage. Give also plenty of air, and paint the back of the pit or frame with sulphur and lime, and if that is too white add a little soot. It was a pity to use soil so full of fungus.

ANIMATED OATS (*H. N. E.*).—These are the seeds of *Avena sterilis*, and commonly called the "Animal Oat" and the "Lively Oat." It is a native of Barbary, but was introduced here more than two centuries since. Of course you are aware that the cause of these seeds moving along like a mass of insects is the extreme sensitiveness of their awns to dryness and moisture. We do not know the Clematises you mention, but they probably require greenhouse culture.

NAMES OF ROSES (*B. S.*).—The white Rose is *Noisette Grandiflora*, but the other was too decayed to be recognised.

TRANSPLANTING GOOSEBERRY AND CURRANT TREES (*A Subscriber*).—With care you can readily transplant these when six or seven years old. Prune the bushes as soon as the fruit-bearing is over—that is, cut away a good deal of the branches which will not be wanted. As soon as the leaves begin to change colour a little, open a trench some 3 or 4 feet from the bole of each shrub, and then pick away the earth, but carefully saving the roots. If you can secure to each a ball of earth all well, if not it matters but little. Spread out the roots nicely in the new soil, and stake the trees, and mulch the surface before frost comes. The shrubs will make good roots before spring.

STOVE PLANTS FOR DRAWING-ROOM (*An Old Subscriber*).—This subject will be discussed fully in the course of a week or two.

PELARGONIUMS DONE BLOOMING (*W. B. W.*).—After blooming they should be rested for a period of six weeks, by thorough exposure, and withholding water, or, if rainy weather, by turning the pots on their sides. When the plants are cut down it is not necessary to plunge the pots, but stand them on a hard floor or boards. They should be repotted after the new shoots are half an inch in length, removing most of the old soil, and potting into smaller-sized pots. After potting place in a cold frame, shading from bright sun, and keeping close for a few days; then give all the air possible, and protect from heavy rains.

PLANTS FOR WALL OF STOVE (*J. Bayley*).—We presume your wall is shaded. In that case you could not do better than have a trellis made for it, and cover that with *Cissus discolor*, and thus have a tapestry of the richest and most beautiful kind. In case you wish for flowering plants, *Hoya carnosa* and its vars. *piota* and *variegata*, *Mikania scandens*, *Manettia bicolor*, and *Bignonia venusta*. If there is no trellis, then *Cereus grandiflorus*, *C. Macdonaldi*, and *C. flagelliformis*. Our choice would be two plants of *Cissus discolor*, and a *Sphaerostemma marmorata* in the centre, with suspended baskets, from the upper part of the wall, of *Pothos argyrea*. If the wall is not shaded, then *Passiflora quadrangularis*, *edulis*, *racemosa*, and *alata*, or *Ficus barbara*, *Vanilla aromatica*, and *Renanthra coccinea*.

SCALE ON PEACH TREES (*Inquirer*).—It is difficult to tell what causes trees to be attacked by insects. Your trees on the greenhouse back wall do not, probably, receive sufficient air, and that may render the leaves favourable to attacks of scale. As the fruit is ripening, you can only pick off the scale with the point of a knife, which certainly is a slow but sure method of clearing off the pest. After the fruit has been gathered, syringe the trees with water, at a temperature of 160°, in which soft soap or Gishurst compound has been dissolved at the rate of 4 ozs. to the gallon. Allow this to dry, then wash it off with water at 140°. After the leaves have fallen (clear them away immediately they fall), wash the trees with a composition which we have used for the last twenty years, without any appearance of scale afterwards. It is made as follows:—Take 7 lbs. sulphur vivum, and 7 lbs. quick lime, and boil for fifteen minutes in three gallons of soft water; then add 2 lbs. soft soap, and 1 lb. of the strongest tobacco, continuing the boiling half an hour longer. Strain, and apply whilst hot (140°) to the trees with a brush, taking care not to injure the buds, and yet to go into every hole and crevice. Keep in a close-stoppered bottle for future use, and in case of attacks of red spider, thrips, and green fly, in summer, put a pint in three gallons of water, and syringe the trees with it. We know this old remedy for the ailments of the Peach, to have been in use for three-quarters of a century with the best results. The trees should be washed before the buds begin to swell.

HIMALAYAN CEDAR AND CYPRESS SEEDS (*Dorset*).—Sow the seeds next March in a cold frame, in light good loam, or sow in pans, keeping moist, and rather close, until the seedlings appear; then give air day and night in mild weather, protecting only from deluging rains and severe frost. Water freely, but never sodden the soil; and in winter give air daily, protecting with mats in severe weather. When the seedlings are a year old, prick them off in the frame in rows 6 inches apart, and 3 apart in the lines. They may be potted, and grown in an airy greenhouse, if sown in heat, and hardened-off after the young plants appear. In the spring of the second year from sowing they may be transplanted into a sheltered situation, yet open, in lines a foot apart, and 6 inches in the lines. Two years from this they may be planted out in their final positions. We suppose that the "Gigantic Cypress" sent to you from the Himalaya is *Cupressus torulosa*. What is the "Rayen Cedar," or the "Blue Cedar," we do not know.

PEACH TREES OVER-LUXURIANT—FRUIT FALLING (*H. C.*).—We should think that your Peach-border is very rich and deep. If not deeper than 24 inches, and the roots cannot get below that, we should not mind how rich the border was; but disbud the young sappy shoots, so as to leave them 9 inches asunder, thereby allowing them light and air, in order to get the wood well ripened. When the wood is so ripe as to perfect the fruit-buds for blossoming and setting, it is hard to tell how the falling of the fruit afterwards can be attributed to the imperfect ripening of the wood. Your fruit falls when undergoing the stoning process, and it fails to do this generally—1st. When the trees have been too heavily cropped; 2nd. When there is not sufficient moisture in the soil; 3rd. When there is not sufficient air or ventilation; 4th. When the atmosphere is too dry, and there is too much heat at that period; 5th. When there are sudden changes of temperature, and alternations from little to much air, coupled with extremes of dryness and moisture. Providing the border is not deep, we would not root-prime or take up the trees, but disbud to shoots at every 9 inches distance along the main branches, and have them at that distance from each other. We would shorten the leading shoots but little at the winter pruning, and leave the bearing shoots longer than usual—say 1 foot. From the first swelling of the buds give air day and night, lessening it, of course, by night, and continuing this until the leaves fall. Peaches like plenty of air. After setting syringe the trees morning and evening, up to the time of the fruit ripening, when a little fire heat will do all that is necessary for ripening the fruit and wood. From first to last the border should be well supplied with water, particularly when the fruit is stoning; and for want of this, and sufficient ventilation, we think your Peaches fall without stoning. We presume your trees are young, and that they will lose their luxuriance when they commence bearing. If the border is rich and deep, then we would recommend lifting the trees in preference to root-pruning, reducing the border to 20 inches deep, and planting rather near the surface, just covering the roots. We have some that would not set their bloom, and we took them up last November, and found the roots like so many bare sticks at a depth of 2 feet or more. They were planted nearer the surface, and are now loaded with fruit. They were in a rich deep border. The trees are best lifted and transplanted when the leaves are falling, November and December being the best months.

GERANIUMS (*S. S. S.*).—Mrs. Pollock, Sunset, Italia Unita, Lucy Grieve, Mrs. Benyon, and Countess were raised, we believe, by Mr. Gieves. The others were also sent out by Messrs. E. G. Henderson, to whom you had better apply for information as to when the variety which you name will be sent out.

AZALEA STOCKS (*J. P. F.*).—*Versehaefeltii*, called by some persons *rhododendroides*, is this without doubt by far the best stock known. If sufficient quantity of the above is not to be had use the following:—*Holfordii*, *Marie Louise*, and *Phœnicia*.



**HOUSE FOR PLANTS (P. O.).**—If we understand you aright, your house is to be more of a plant-stove, or plant-forcing-house, than a greenhouse. We should, therefore, advise you to have your pit for pot-plants, instead of specimens planted out. You will thus secure your object better. *Passiflora princeps* and *P. kermesina* would suit the dome part of the house. For twenty climbers the following would be good:—*Combretum purpureum*, *Jasminum sambac flore pleno*, *Ceropegia elegans*, *Bignonia venusta*, *Quisqualis indica*, *Passiflora elata* and *P. Bounpartea*, *Ipomoea Leani* and *I. Horsfallii*, *Pergularia odoratissima*, *Hoya carnosa*, *Thunbergia fragrans*, *T. coccinea*, and *T. Hartisii*; *Allamanda cathartica* and *A. Schottii*, *Torenia asiatica*, *Echites* of sorts, *Bauhinia seadensis*, *Solanandra grandiflora*. These are recommended on the presumption that the house is not to be below 60° in temperature; if a colder house others must be used.

**SEEDLING ANTIRRHINUMS (Barr & Sugden).**—There is a great variety among your seedling *Antirrhinums*, many of them good varieties, though nothing new, and we have seen many seedlings this year as good; yet no one can be disappointed who purchases seed saved from them. (*T. Ansell*).—Your seedlings are like many others we have had sent to us this season. Whilst writing we have three or four dozens quite as good before us. There is nothing new in colour or form; and though some of them are pretty varieties, they are only such as we should expect to be produced from any packet of good seed.

**ROSE TREES DYING (Lex).**—Your Rose trees have died off from some other cause than the insects you have seen at work, which are a species of bee belonging to the genus *Osmia*. They only burrow in the pith of the dead dry snags, and not into the living part, and the injury they commit extends no further down.—W.

**PLANTING STRAWBERRIES (Agnes).**—I presume when Mr. Chalouet speaks of taking up and putting in with a trowel in July, he means runners of the year. It is not a good plan to remove old plants. I do not keep the Black Prince, so cannot compare it with Sir J. Paxton and Eclipse. An earlier Strawberry than Sir J. Paxton would probably not be good out of doors unless covered with ridge-vineries' glass. It was ripe here this year on Whitsunday. Eclipse is not quite so early. When I said the planting season is from January to July, of course I presumed the January planting of runners is of runners supposed to be kept over the winter and planted the spring previously. The July runners of courses are to be had from one's own plants. The nurserymen cannot supply them so early. All my new plantations are now made, July 21. The fault of the Black Prince is that in mild winters it goes into flower, and its blooms are killed. It is otherwise a sweet, hardy, and good early Strawberry.—W. F. RADCLIFFE, *Tarrant Rushton*.

**NAMES OF PLANTS (M. D.).**—*Mesembryanthemum sessilifolium*. (*Lady King*).—A Cucurbitaceous plant; send it again when it flowers. (*A. J. T.*).—1, *Aechmea italica*; 2, *Sedum sexangulare*; 3, *Mesembryanthemum forficatum* (?); 4, *M. virens*; 5, *Sedum dasyphyllum*; 6, unrecognisable.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 22nd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 16	29.995	29.990	82	56	65	63	S.W.	.04	Very fine, with light clouds; thunder shower at night.
Mon. . . 17	29.931	29.809	81	50	65½	63½	S.W.	.20	Very close and hot; very fine; overcast; rain at night.
Tues. . 18	29.870	29.675	69	48	66	63	S.	.04	Very clear; light showers; very fine; showery at night.
Wed. . 19	29.804	29.742	72	44	64	62½	S.	.00	Light clouds, and very fine; overcast; very fine.
Thurs. 20	29.838	29.669	75	43	63½	61½	S.	.20	Very fine, with some clouds; rain at night; cool.
Fri. . . 21	29.811	29.764	78	56	63½	62	E.	.00	Very fine; overcast; warm at night.
Sat. . . 22	29.745	29.679	79	54	64	62½	S.W.	.00	Uniformly overcast; cloudy and fine; very fine; cloudy.
Mean..	29.856	29.761	76.57	50.07	64.50	62.57	....	0.48	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### DISEASES OF FOWLS.

We have had many queries about maladies and ailments among chickens that pass our philosophy. Prevention being better than cure, we can only tell our readers that which we do with uniform success. If the chickens are well, we let well alone; but if there appears a listlessness and discontent among them, a contempt for food, and an apparent inclination to go what our man calls "the wrong way," we give them wormwood and camphor in their water, not mixed, but each in a separate vessel. Both are very valuable. Our man gives them "nettle tea," because he finds it good for his children. We have no faith in it. We are becoming sceptical about tainted ground for chickens; we have reared on six acres hundreds for twelve years, and have no taint. We change the spot for the hens under the rips with the chickens every year, so far as the space will admit, and we allow the chickens to roost out and about till the long cold nights come, when they all go into an old barn. Every rip is shifted every day, and when the grass is laid up for mowing, each spot shows by its redundant crop where one has been. We share in the old superstition about June chickens—

"Chicks that are hatched, when there's making of hay,  
Will never grow up—they pine away."

It may be that while haymaking is about the chickens miss some of the care they require, and therefore decline; be that as it may, ours have always done badly in June, and we have, therefore, timed them this year to come out in July; they are doing gloriously. The rain has freshened the newly-mown land, and we know no run better for the young broods. Of course we are not speaking of exhibition birds, but good fowls are handy in the winter, and the July chicks will prove it.

### THE POULTRY CLUB'S PROPOSED ANNUAL SHOW.

The Poultry Club having at its last general meeting decided on holding an annual show, moveable year by year, on the principle of the Royal Agricultural Society, the Stewards invite the co-operation of all exhibitors (whether members or not) in furtherance of this object.

The prize list is guaranteed by a fund subscribed to by individual members of the Club, and the Stewards propose to hold the show in one of the leading towns of the northern or midland counties. They now request suggestions from exhibitors, as to which town would be most eligible and offer the greatest facilities. It would be necessary to form a local Committee, and obtain the services of a good local Secretary.

If arrangements can be made in sufficient time, it is proposed that the Show be a chicken show, that being the want which the Stewards conceive to be most felt. The prize list will be liberal, increasing with the amount of guarantees received from members, and will include Pigeons. Two silver cups have been promised, and more are anticipated.

All communications or suggestions addressed to the Hon. Sec. of the Club will be thankfully received, and any local Committee formed in any eligible place can be at once arranged with. Signed by order,—F. W. ZIMMERST, *Hon. Sec., Donnybrook, Dublin*.

### SULTAN FOWLS.

A FRIEND sent me three fowls to take care of during his absence from home, as he dreaded a want of care on the part of his man-servant. He calls them "Bashi-Bazouks." To me they appear to be neither more nor less than bearded White Poland fowls. They are quite white, with large topknots, a sort of beard under the throat, a small horned comb close on the upper portion of the beak, legs greenish yellow, or willow as it is called; good layers of average-sized eggs. They are certainly curious in appearance. Can you from my description tell to what class they belong? I am very desirous of the information, as he gave a very high price for them.—A VERY OLD POULTRY FANCIER.

[We should be disposed to believe the birds you name are the "Serai-ta-ooks," or "Sultan Fowls," imported some years since by Miss Watts. They were much like what you describe, very good layers, and most pleasing as tame and familiar pets. We can hardly name their value, as we were not aware there were any left, on account of the difficulty of procuring fresh blood. A cock and two pullets of last year should be worth from £5 to £6.]

**ELECTIONEERING INTELLIGENCE.**—The Light Brahmas have been elected to separate classes at Bingley Hall, Birmingham



by a large majority. We trust at the meeting the last week in November, they will by their presence justify the preference shown to them.

### PLYMOUTH POULTRY SHOW.

This was held on Monday, the 17th, and four following days. The entries were not very numerous (156), but the quality of the birds sufficiently compensated for any deficiency in quantity. The Show has been well visited, the weather being brilliant.

The following were the awards of the Judge, R. Teebay, Esq., Fulwood, Preston:—

**DORKING (Any colour).—**First, W. R. Peacey, Chelworth, Gloucestershire. Second, F. T. Parker, Rosewarne, Camborne. Third and Fourth, J. K. Fowler, Aylesbury. Commended, E. Burton, Truro. *Chickens.*—First, Miss J. Barta, Plymouth. Second, Rev. P. W. Story, Charwelton House, Daventry. Commended, J. K. Fowler.

**DORKINGS (White).—**First and Second, H. Lingwood, Needham Market, Suffolk.

**COCHIN-CHINA (Any colour).—**First, H. Tomlinson, Birmingham. Second and Third, F. W. Zurhorst, Donnybrook, Dublin. Fourth, J. K. Fowler, Aylesbury. *Chickens.*—First, R. Rodbard, Aldwick Court, near Bristol. Second, Rev. S. Taylor, Kenstwick, Kirby Lonsdale.

**COCHIN-CHINA (White).—**First and Second, F. W. Zurhorst, Donnybrook, Dublin.

**GAME (Black-breasted and other Reds).—**First, Rev. G. S. Cruwys, Morchard Court, Tiverton. Second, E. Burton, Truro. Third, J. Barter, Totnes. Commended, J. Collacott, Tavistock; Miss S. Northeote, Upton Pynes, near Exeter.

**GAME (Any other variety).—**First, S. Dupe, Everecreech, Somerset. Second, Rev. G. S. Cruwys, Morehard Court, Tiverton. Third, J. Barter, Totnes. *Chickens.*—First, H. Doney, Mutley, Plymouth. Second, H. Adney, Remberton, Collypump. Third, Rev. G. S. Cruwys, Morehard Court, Tiverton. Highly Commended, H. Doney. Commended, H. Adney.

**SPANISH.—**First, J. R. Rodbard, Aldwick Court, near Bristol. Second, J. K. Fowler, Aylesbury.

**POLANDS (Any variety).—**First, J. Hinton, Hinton, near Bath. Second, D. Dobrie, Forest Rectory, Guernsey.

**BRAHMA POOTRA.—**First, R. W. Boyle, Dundrum, Dublin. Second, H. Hinton, Hinton, near Bath. Third, E. Pigeon, Lymington, near Exeter. Highly Commended, E. Pigeon; J. Pares, Childown Hall, Chertsey.

**HAMBURGH (Golden-pencilled).—**First, B. Mills, Mannamend, Plymouth. Second, J. Dunstan, Wendroo, Cornwall. Third, N. Barter, Plymouth. Highly Commended, N. Barter. Commended, T. Edwards.

**HAMBURGH (Silver-pencilled).—**First, A. K. Wood, Burneside, Kendal, Westmoreland. Second, Miss J. Barter, Plymouth.

**HAMBURGH (Golden-spangled).—**First, A. K. Wood, Burneside, Kendal, Westmoreland. Second, J. Roe, Hadfield, near Manchester. Third, C. Benwell, Bayswater, London. Commended, R. Tate, Leeds.

**HAMBURGH (Silver-spangled).—**First, A. K. Wood, Burneside, Kendal. Second, G. Miller. Third, W. Miller, Sherborne, Dorset.

**GAME BANTAMS (Any variety).—**First, J. K. Fowler, Aylesbury. Second, W. H. Oxlard, Plymouth. Third, Rev. G. Raynor, Rectory, near Brentwood. Highly Commended, G. Manning, Springfield, Essex.

**GOLD AND SILVER-LACED.—**First, Rev. G. S. Cruwys, Tiverton. Second, G. Manning, Springfield.

**SELLING CLASS.—**First, D. Dobrie, Forest Rectory, Guernsey (Crève-Cœur). Second and Third, R. H. Nicholas, Malpas, Newport (Spanish and Silver-spangled Hamburgs). Highly Commended, Miss S. Northeote, Upton Pynes, near Exeter (White Game). Commended, Rev. P. W. Storey, Daventry (White Bantams); G. Manning, Springfield (Brown Red).

**SINGLE COCKS.—Game (Any variety).—**First, G. S. Cruwys, Tiverton. Second, R. Rodbard, Aldwick Court, near Bristol. *Bantam (Any variety).*—First, Rev. G. Raynor, Rectory, near Brentwood. Second, E. Cambridge, Bristol. Highly Commended, S. Lacy.

**DUCKS (Rouen).—**First and Commended, E. Burton, Truro. Second, J. K. Fowler, Aylesbury.

**PIGEONS.—Carriers.—**First, E. E. M. Roys, Ashby-de-la-Zouch. Second, H. Doney, Plymouth. Highly Commended, C. Cole, Bradford; H. Yardley, Birmingham; C. Bulpin, Bridgewater. Commended, C. Bulpin. *Pouters.*—First and Second, C. Cole. Highly Commended, E. E. M. Roys; H. Yardley; C. Bulpin. *Fantails.*—Second, H. Yardley. Highly Commended, C. Bulpin. *Tumblers.*—First, H. Yardley. Second, C. Cole. *Turbits.*—First, C. Bulpin. Second, E. Pigeon, Lymington. Highly Commended, H. Yardley. *Any other variety.*—First, E. E. M. Roys. Second, E. Pigeon (Magpies). Highly Commended, E. Pigeon (Hyacinths); H. Yardley. Commended, H. Yardley; C. Bulpin.

### STOWMARKET POULTRY SHOW.

This Exhibition was held on the 14th inst., and was remarkable for the fine collection of Game fowls, there being no less than twenty-nine pens exhibited. The number of entries, 140, was greater than last year, and there was also a marked improvement in the quality of the birds exhibited. The Society is evidently becoming better known to the best breeders of fancy fowls and more appreciated by them. The Society is fortunate in having so celebrated a breeder of Game fowls as Mr. Samuel Matthew near at hand, and his yards alone would be sufficient at any time to furnish a good show of Game birds. He was beaten in Piles by the Rev. F. Watson, and the competition between him, Mr. Fletcher, and Sir St. George Gore was very sharp. Mr. Reason Goodwyn had also two or three pens of fine Game fowls in the show. Mr. Lingwood, a well-known breeder of *Dorkings*, is another near neighbour, and he sent birds of a quality to run the most celebrated breeders of the county very close. Mr. James Frost's pen only winning the first prize through being in somewhat better condition of plumage. Mr. Henry Payne, another local Dorking breeder, had a pen of beautiful chickens, cock and two pullets, which took the first

prize, and were immediately sold at the price put upon them in the catalogue—£2 10s. Mr. Henry Lingwood came into competition with Mr. Rust and Mr. Rodbard in the Cochinchina classes. Mr. Rodbard's pen, which took the second prize for Cochinchina chickens, was a remarkably good one. This gentleman had also a fine pen of *Spanish*, beating Mr. R. Postans. The *Spanish* are a new feature in the Stowmarket show, and four finer pens than those sent on the 14th can scarcely be hoped for at any show. The Judges commended the two pens which did not take the prizes. Mr. Jeremiah Wright, as usual, took the first prize for *Brahmas*, but the class was not quite so good as in some shows. The *Hamburgs* were represented in all the varieties, but not numerous. The *Spangled* were very good, and the pen of Black *Hamburgs* shown by Mr. Jeremiah Wright, and which obtained a first prize, were very fine birds. *Bantams* were in great force, Mr. Henry Payne again carrying off a first prize for Game Bantams.

In *Ducks* there were some of the finest, or, at any rate, the largest Aylesburys that we have seen at any local show, and the Geese were equally meritorious, being large, handsomely made, and in beautiful plumage.

*Pigeons* were shown in great numbers and variety, and so good that the Judges highly commended every pair that they could not award a prize to. They were in a similar position with regard to the Rabbits.

The following were the awards:—

**SPANISH.—**First, J. R. Rodbard. Second, R. B. Postans. Commended, W. Hewitt, jun.; E. D. Mills.

**DORKINGS (Coloured or White).—**First, J. Frost, Parham. Second and Highly Commended, H. Lingwood, Needham. *Chickens.*—First, H. Payne, Stowmarket. Second, R. B. Postans, Brentwood. Highly Commended, H. Lingwood.

**COCHIN-CHINA (Any variety).—**First, F. W. Rust, Hastings (Buff). Second and Highly Commended, H. Lingwood. *Chickens.*—First, F. W. Rust (Buff). Second, J. R. Rodbard. Highly Commended, H. Lingwood. Commended, Mrs. M. Seamons.

**BRAHMA.—**First, J. Wright, Woodbridge. Second, Mrs. M. Seamons.

**GAME (Black-breasted and other Reds).—**First and Highly Commended, S. Matthew, Stowmarket. Second, Sir St. G. Gore, Bart.

**GAME (Duckings and other Greys and Blues).—**First and Highly Commended, S. Matthew. Second, Sir St. G. Gore, Bart.

**GAME (White and Piles, Blacks and Brassy-winged).—**First, Rev. F. Watson. Second and Highly Commended, S. Matthew.

**GAME (Chickens).—**First, E. Pettit, Colchester. Second, S. Matthew.

**HAMBURGS (Golden-pencilled).—**First, Sir St. G. Gore, Bart. Second, W. B. Webb.

**HAMBURGS (Silver-pencilled).—**First, Sir St. G. Gore, Bart. Second, W. B. Webb.

**HAMBURGS (Golden-spangled).—**First, Sir St. G. Gore, Bart. Second, Mrs. Pattison.

**HAMBURGS (Silver-spangled).—**Prize, Sir St. G. Gore, Bart.

**GAME BANTAMS (Black-breasted and other Reds).—**First, R. B. Postans. Second, Sir St. G. Gore, Bart.

**GAME BANTAMS.—**First, H. Payne. Second, R. B. Postans.

**BANTAMS (Any other variety).—**First, G. Manning (Golden Sebright). Second, Sir St. G. Gore, Bart. Commended, F. Ellis; H. Riley.

**ANY OTHER VARIETY.—**First, J. Wright (Black Hamburgs). Second, J. Pares (Andalusian).

**DUCKS (Aylesbury).—**First and Second, Mrs. Seamons.

**DUCKS (Rouen).—**Prize, C. Punchard, Haverhill.

**DUCKS (Any other variety).—**First, T. C. Harrison, Hull (Brown Call). Second, W. Hewitt, jun. (White Decoy). Commended, H. A. Oakes (White Teal).

**GESE.—**First, Mrs. M. Seamons. Second, W. B. Webb. Commended, Mrs. E. Roe.

**TURKEYS.—**First, Miss J. Millward, Cambridge. Second, T. Taylor, Combs.

**PIGEONS.—**First, H. A. Oakes (Carriers). Second, G. E. C. Poyd (Pouters). Extra Second, D. Greengrass (Carriers). Third, H. A. Oakes (Carriers). Extra Third, D. H. Feltham. Highly Commended, F. Disney; J. W. Pountney; E. E. M. Roys; J. J. Hazell; D. H. Feltham; W. B. Webb; Wiggins; W. Feltham.

**RABBITS.—**First, E. E. M. Roys. Second, W. Howell. Highly Commended, H. Welham; G. Mann; G. Gudgeon; G. Jones; C. W. Pettit; F. Roper; G. Steadman; Miss N. Hamilton.

**JUNGES.—**The Rev. Thomas Lyon Fellowes, Beighton Rectory, Norfolk, and Mr. James Monsey, Norwich. (*Ipswich Journal*.)

### RIGHT AND WRONG.

AN advertisement appeared in your paper a short time since offering for sale a pen of birds which had gained a certain distinction at a certain show. I wrote to have them sent to me on approval. They came. The cock had lost half his tail, and the whole pen looked as if it could not, in any show, have gained the distinction named. The sender informed me by letter, marking under the words, that he was *selling for a friend*. I returned the birds, carriage paid, on the same day, telegraphing their departure, and asking for an animal, included in the advertisement, to be sent on approval. It came, backed with a pedigree, and a description of the purity of its breed, which showed that the advertiser was either a knave or a fool. Disgusted at my second disappointment, I returned the animal carriage paid, stating my objections, and remonstrating with the sender for putting me to expense and trouble by his misrepresentations.



Between three weeks and a month since, the above-mentioned advertiser wrote to me for a Game Bantam cock at a small price. I sent him one from a commended pen for 12s. 6d. He had probably seen my birds at a show held in his neighbourhood. The cock being of the same strain as the hens I did not care to keep him. I forwarded the bird instantly, according to request, as it was to be seen and approved of by some person who was to leave the advertiser's house on that day. The bird was carefully packed in a lined poultry basket. For nearly a fortnight I heard nothing of the bird. I wrote to this effect. A letter, purporting to be the copy of a letter written ten days before, then came. This inadvertently admitted that, as a copy, it was a falsehood, or else it was so clumsily put together as to make it appear like one. The letter contained an abuse of the bird, and an offer of 7s. 6d. for it. This I declined, stating that, even after so long a delay, the bird might be returned at once carriage paid. No notice was taken of my letter, neither did any bird arrive. In the meantime I wrote to the exhibitor of a pen which gained the distinction said to belong to the pen advertised, and sent to me on approval, offering to buy his pen if still for sale, and asking if it were the same pen which had been advertised by my correspondent. With much incivility, or with some knavery, I have not received any answer; therefore I conclude that two persons, *arcades ambo*, were concerned in the advertisement. When I answered this advertisement, I wished to possess the pen that I might put the cock bird into my own pen. When I wrote to the supposed owner of the advertised pen, I wished to possess it for other and obvious reasons. After waiting another week without receiving any answer from either the advertiser or his friend, and without receiving my bird, I directed my man to write for payment of the price. He did so. In two days after this I received the bird, packed, not in my own lined poultry basket, but in a broken fruit basket, without lining, and ill-secured. In consequence of this carelessness, to use the mildest term, the bird's tail feathers are so damaged that he will be useless until after the moult.

In mentioning this matter to a friend, I found that the same person who has victimised me obtained from him a pair of hens on approval, which he unwarrantably kept during the time of, and until after, a certain show, when they were returned with a string of unreasonable objections.

Who can have done this? Can this be right? many will exclaim. I know who has done it, and I will not say that it is right. Truth is a libel if damage can be shown; but I shall be glad to know by what means, not actionable, the unwary can be put upon their guard against advertisers of this stamp.

The person in question is a tradesman, who deals in other things, probably, as he deals in birds.—EGOMET.

### DYSENTERY IN BEES—PREVENTING EXCESSIVE SWARMING, &c.

DYSENTERY in bees appears to me to be owing rather to the want of pure air in the hive than to dampness, although I think the combination of both evils aggravates the mischief greatly. Not seldom it arises from the entrance becoming accidentally choked up with dead bees during a long continuance of cold or bad weather, when the living insects have been unable to carry off the corpses. Depend upon it, that in roomy hives (if not quite full of comb so much the better), with good-sized entrances, and containing plenty of wholesome food stored up in good time, there will be little experience of this complaint. It is important to avoid all feeding from October to February or March. A neighbour of mine suffered greatly last winter from this disease, owing to the constant drip of liquid food into his hives from the inverted bottles at the top. "Damp" certainly "helps to cause it." Some persons recommend that a current of air be made to pass through the hives all the winter, by leaving a hole open at the top of the hive. I have tried this plan myself with good result, but the hives ought not in this case to face any quarter whence cold winds blow prevalently. I would recommend the excision of a comb or two at the close of the honey season, which would make the hive more airy.

With regard to the prevention of excessive swarming, it is sometimes impossible to avoid it, but it may be much checked by the plan I recommended at page 407, No. 222. I am quite aware that up to the time that an artificially-formed swarm is placed in lieu of the driven parent stock, there will be more or less secession to the neighbouring stocks, if near at hand, in

which case, however, they will mostly return the same, or the next day; but I cannot imagine the bees thus succeeding in the case of a natural swarm, when substituted for the parent stock. I presume that the swarm is immediately placed where it is to remain, for when the swarm has had time to establish its distinct individuality, the bees of the two families will often not peaceably unite.

The following recent experience of mine may not come amiss in this place. I was much vexed to see a swarm issue on the 22nd of June last from one of my Tasmanian hives, which I had considered out of danger of such calamity. Although it was a very large swarm, it was too late in the season to do anything for itself. I, therefore, returned it after cutting out of the parent hive every royal cell I could see. I also gave the bees abundant room in a large straw super, besides cutting out some honeycomb from the hive itself. This answered perfectly, but I do not think it a good plan to "join the queen and a few bees taken from the swarm to the parent hive in the evening." How much better and simpler to put the whole swarm, queen and all, in the old stock's place at once.

The brown paper I use for smoking bees is the same as that in which my seeds come to me from the Messrs. Sutton and Sons. It smokes very freely without being dipped in nitre.—B. & W.

### ENTRANCE TO JOINED HIVES.

WE have a hive of bees in a common straw hive that seemed too full. Lots of bees hung outside, so we put a piece of wood on the top, with a hole cut in the middle, and another hive with a hole cut in the bottom. Now the bees are working in both with two outlets—one as usual at the bottom of the low hive, and one at the bottom of the top hive on the wood platform. Some of my friends who profess "bee-ology," advise me to step up the top hole, and let all the bees go in at the bottom and work upwards. I think the two holes are best, ventilate the hives, and save the top workers lots of trouble in getting all through the bottom hive to the top.—AN AMATEUR.

[We should close the upper hole, leaving the bees but one entrance, and that at the bottom.]

### CONSEQUENCES OF DEFECTIVE VENTILATION.

HAVING obtained a Woodbury straw hive I screwed fore and aft a flange with a groove in it, so that a square of glass was kept firm, but not tight, on the top of the hive, and on Monday June 5th I hived a swarm in it. On the 26th (three weeks after), the bees had filled eight of the frames, or nearly so, and had begun on the 9th and 10th, on which day I took out a maiden swarm, consisting of the two outside combs on the left hand as the bees enter, for they had begun upon the outside, not the middle, combs. I was lucky enough to find the queen on the first (the outermost) comb; so I had no difficulty, and did not disturb more than the two I removed. They were put into a bar-and-frame hive of native make, of which more anon, and were placed on their original site, and began to work vigorously, seeming scarcely disturbed. The Woodbury-hive was then placed about 2 yards from its old position, but facing south-west instead of south-east, with two spare frames in the vacant notches, and the entrance closed with perforated zinc.

Relying somewhat upon the Woodbury-hive being specially adapted to the making of artificial swarms, and also that the glass cover admitted air on both sides at the top, I concluded that there would be ventilation enough; and wishing that the bees should commence royal cells and settle down sufficiently before they were liberated (see answer to my letter in your Journal of April 18, page 315), I did not remove the zinc till 9 p.m. on Tuesday, thirty-two hours from having made the transfer. When I did so there was a rush of bees about the entrance, and they were active under the glass at the top. Judge, then, my surprise when at 6.30 on Wednesday morning I found the entrance choked up with dead bees, and I scooped out about half a pint before there was a passage for any living bees, which, when they did come, only for a moment hovered around, and then returned to their original home. This went on till at 1 p.m. I became alarmed. The parent hive with its six full frames had scarcely a bee in it, while the maiden swarm in the original position had all the bees. To remedy this I changed the position of the hives: the consequence was that there was a second desertion from the maiden swarm back to the original stock, which set to work on the



whole well, yet showing a disturbance from the want of a queen. But I was again alarmed, for the second desertion was carried further than seemed fair; and as two rainy days followed I gave them a quarter of a pint of syrup each night for four nights, and they did very well, as the young bees from the two frames were then beginning to come out, and they repulsed robbers which were beginning to take advantage of their weakness.

One point I have purposely omitted. A great many of the bees that first deserted from the original hive to the maiden swarm died, and were carried out by the other bees; this happened before the exchange on Wednesday at mid-day, and I would ask, Why did they die? Surely not for want of food, for there were plenty of sealed cells of honey, which they never touched, and I had syringed about a quarter of a pint of syrup among them during the day. Would partial suffocation act fatally some hours after their liberation?

My bees are on a shelf about 4 feet above the ground, under a roof, but open to weather on all sides; now in inspecting the frames, taking them out to see how royal cells are progressing, &c., is it better to remove the hive or manipulate as it stands? I should also be obliged if you would inform me if a nucleus hive is a Woodbury with fewer bars, or is it a smaller hive on the same plan? or what?—M.D.

[The great mortality among your imprisoned bees was owing to the non-observance of our caution regarding the necessity of ample ventilation. Had the crown-board been removed, and a square of perforated zinc been substituted for the glass on the top of the hive, all would doubtless have gone right. The bees which first returned to the old hive had probably acquired some distinctive characteristic during their absence which caused their brethren to destroy and expel them as strangers. Partial suffocation would certainly not be attended with fatal results some hours afterwards. As there appears to be plenty of room for bees that take wing to escape into the open air, it will be much more convenient to them as well as to yourself if you manipulate the hive *in situ*. A nucleus-box should accommodate four full-sized Woodbury frames, and measure 14½ inches long by 6½ inches wide, and 9 inches deep inside.]

### BEES FORMING COMBS OUTSIDE THEIR HIVE.

A NEIGHBOUR of mine has a hive of bees which he placed, when swarmed, upon a shelf in a dark room, with the entrance of the hive against a hole in the wall; and as soon as the hive was full, the bees commenced building combs underneath the shelf, and now there is a nice lot of combs and bees. Will you inform me how I may drive the bees up into the hive? as I contemplate purchasing them, and fixing some of the combs, which are under the shelf, in a frame-hive, into which I intend to put the condemned bees of two or three hives. I may add that the bees do not get underneath from the inside of the hive, which is a common straw one.—A. R.

[Commence by affording more room by raising the hive on a nadir, slightly wedged up on one side. Then puff a little smoke among the combs attached to the shelf, and, having donned a bee-dress, cut them off one by one, and sweep the bees off each comb with a feather on to the shelf close to the wedged-up side of the nadir, which they will rapidly enter with vibrating wings. The nadir had, perhaps, better remain until autumn, when it may be removed, as the diminished population will then find ample accommodation within the hive itself.]

### BEES IN A CHIMNEY.

As no answer appeared in your last Number to an application made the previous week by "T. H. F." for information as to how he might secure a swarm of bees which had settled in a chimney in his house, I think I may not yet be too late in rendering him assistance by giving him my experience of a method which I have known to be adopted with success in a similar difficulty.

The mode of procedure on the occasion to which I allude was as follows:—A rope, with a light weight attached, was let down very gently from the top of the flue in which the bees had settled, and when this made its appearance at the bottom of the chimney, a bundle of fresh grass well damped and as

nearly as possible the size of the flue, was attached to it, and the whole was then drawn gently to the top of the chimney, upon which an empty hive had been already properly placed; into this the bees at once ascended, and were removed to their destination without further difficulty. No doubt "T. H. F.'s" bees, if he has not already secured them, have before this formed no inconsiderable quantity of comb, but although this may cause the loss of a few bees, they may still lay up a sufficient store for the winter. At all events he might unite them to another swarm.

On the 10th of June I was presented by a kind neighbour with a magnificent first swarm, which had unfortunately lived in "an old straw" ten days previously. As I was anxious to try one of Nutt's hives I undertook the removal of them, and although they had an immense quantity of young comb formed, I conveyed them safely a distance of two miles, and transferred them with very little loss. They have ever since flourished apace.

The very sudden change in the weather which we have lately had here, has given a great check to one of the finest honey seasons ever known. On examining my cap-glasses yesterday I found nearly all the bees had forsaken them and retreated to the body of the hive; I attributed this to cold at night, and immediately covered each of them with wool, closely wrapt round between the glass and super. To-day, although very cold, on peeping in I found them working away in the glasses as busily as ever.—SQUIB, *County Kildare*.

A FEW weeks since a swarm of bees settled in my next-door neighbour's chimney (a very high one), and after having been there two days, my unskilled friend, without any preparation in the way of dress, took a long fishing-rod and agitated them with it. About half of the bees came down the chimney into the attic, and my friend swept them up with a hand-brush and dust-pan, shovelled them into a hive, and placed them in the garden, where they are now working well, although few in number. The remaining half settled on the roof over the engine boiler, and we placed a hive over them, but when the engineer lowered the damper the sulphur from the flue killed them.—A. R.

[Agitation by means of a fishing-rod might of course disturb a swarm of bees, and cause them to forsake a chimney in which they had just taken refuge, but would be worse than useless, if not absolutely fatal in its effects, if resorted to after combs had been built and stored.]

### OUR LETTER BOX.

GAME FOWLS (*Man of Kent*).—Very glad are we that we met your wishes satisfactorily. We did not feel aggrieved by what we considered intended as an awakener. Editors, like policemen, require inspectors to keep them alert when on duty.

LEG WEAKNESS (*W. H. Fell*).—Your Cochinchina cockerel resting on his hocks is suffering from leg weakness, caused by over-rapidity of growth. It is a common occurrence. Feed him on bruised oats, bread and beer once daily, and plenty of green food. Give him also, daily, two grains of sulphate of iron mixed up with his bread and ale, until he is stronger.

CHICKEN FEATHERLESS AND BLISTERED (*T. S.*).—We are afraid there is no cure for the case you mention, but we have known adult fowls live for a long time in a similar condition. Try the effect of pricking one or two of the bladders, closing the opening with any sort of ointment as soon as the air is expelled.

COCK'S FEET AND LEGS SWELLING (*H. B. W.*).—You would materially assist us in answering if you would describe the breed of the bird. Dorkings are very subject to it, while it is rarely met with in other breeds. If it belong to the breed named, there is no cure, the great weight of the body resting on the feet keeps up the inflammation. If the bird is an old one, the best advice we can give you is to kill it. If a young one it arises from weakness—perhaps from over-growth. Feed very generously; give cooked meat, ground oats slaked with milk, and boiled egg. Keep the bird in confinement, with hay to tread upon. Let it have a large sod of growing grass every day. If the swelling extends above the knee-joint, and the flesh of the thigh, close to the knee, is uneven on the surface, and feels to the touch as if filled with small air-cells, you may kill it at once. It will be a loss in every way, even if it live.

LICE ON POULTRY (*W. B. A.*).—You have two bad things—first, instead of being cleaned once per week, the houses should be cleaned every morning. If the floor is, as it should be, of loose gravel, a birch broom, drawn over the surface, under the perches, and the places, corners, &c., where the birds congregate every morning, will entirely remove all the lice, or can be, in any way offensive. It is a great mistake to have sitting hens in a roosting-house. We believe attention to this will remove the nuisance.

LIGURIAN BEES (*Una*).—Write to T. Woodbury, Esq., Mount Radford, Exeter.

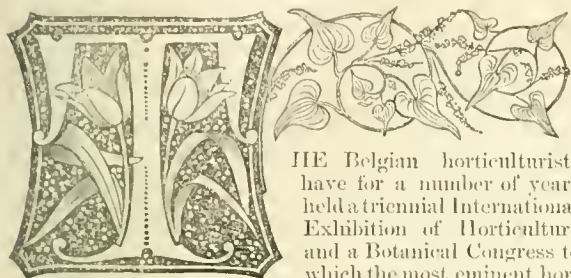


## WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 1-7, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
1	Tu	Early Peaches ripe.	76.1	50.9	63.5	18	26	4	46	47	45	2	51	11	10	6	213
2	W	Mugwort flowers.	76.0	52.0	64.0	18	27	4	45	7	44	3	morn		11	5	214
3	Th	Sow Thistle flowers.	74.9	50.9	62.9	19	28	4	44	7	39	4	36	0	12	5	215
4	F	Yellow Succory flowers.	75.7	51.3	63.5	17	30	4	42	7	27	5	28	1	13	5	216
5	S	Honeysuckle berries ripe.	74.0	51.4	62.7	18	31	4	40	7	11	6	30	2	14	5	217
6	SUN	8 SEN. AFTER TRINITY. PR. ALFRED	72.9	51.1	62.0	18	33	4	38	7	49	6	39	3	15	5	218
7	M	Saintfoin flowers. [BORN, 1844.]	74.4	50.8	62.6	13	35	4	37	7	22	7	53	4	0	5	219

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 74.9°, and its night temperature 51.2°. The greatest heat was 92°, on the 2nd, 1856; and the lowest cold, 36°, on the 1st, 1862. The greatest fall of rain was 1.23 inch.

## THE GREAT INTERNATIONAL HORTICULTURAL EXHIBITION OF 1866.



THE Belgian horticulturists have for a number of years held a triennial International Exhibition of Horticulture and a Botanical Congress to which the most eminent horticulturists and botanists of Europe are invited. Last year we reported in the pages of this Journal what took place at one of those meetings held at Brussels, where there was such a gathering of horticulturists and botanists as had not been witnessed, perhaps, in Europe before. With laudable rivalry and noble hospitality Holland stepped forward, and this year gave a welcome to the nationalities, who flocked to Amsterdam to assist at a similar ovation there; and it was at this last meeting that the British representatives were good-humouredly reminded that they had not yet held out the hand of hospitality to their continental brethren, and invited them to a great exhibition in their metropolis.

At the great meeting held at Brussels last year the proposal was made among some of the British representatives to give a return invitation, and they opened a subscription among themselves for the purpose of carrying out that idea; but it remained an idea, and it was not till the return of those who attended the Amsterdam meeting this year that a Great Exhibition of Horticulture in London, to be held in the year 1866, was determinedly resolved upon. That there will be such an exhibition in London next year there can be no doubt. Already a committee has been formed which has held numerous sittings, and at which not only a general programme has been formed, but an exhibition schedule drawn out offering prizes amounting to £2500. In this schedule every class of horticultural skill is represented, and is encouraged on a scale which has never yet been acted upon in this country. The Committee will be composed of all the leading amateur and professional horticulturists in the United Kingdom, and already the list of Vice-Presidents bears such names as those of the Dukes of Buccleuch, Rutland, Marlborough, and Newcastle; the Marquis of Exeter; Earls Granville, Vane, Cowper, Craven, Ducie, Grosvenor, Manvers; Lord Henry Gordon Lennox; the Bishops of Winchester, Oxford, and Bath and Wells (Lord Auckland); Hon. William Cowper; J. Jackson Blandy, Esq.; W. Wilson Saunders, Esq.; Hon. and Rev. — Curzon, &c. The Executive Committee is composed of some of the leading horticulturists about London, obviously with the view of securing efficient aid on the spot in such an arduous undertaking. The Secretary to the Exhibition is Mr. Moore, of

Chelsea, Dr. Berthold Seeman takes the Congress, and Dr. Hogg is General Secretary. Up to the present time, without any effort on the part of the Committee and without any apparent publicity being given to the movement, the sum of £4200 has been subscribed and guaranteed. The intention is to obtain, if possible, the co-operation of the Horticultural Society of London as being the metropolitan representative of national horticulture, and to hold the Exhibition somewhere in the region of South Kensington in a structure to be erected for the purpose, and which will occupy an area of from an acre and a half to two acres. Failing negotiations in this direction the Committee will then turn their attention in some other direction, wherever they may find it convenient to carry out their arrangements.

Our object in directing the attention of our readers to this great national movement, which is to show the nations of Europe the combined horticultural skill for which this country has as yet no equal, is that they may each and all unite in promoting this desirable undertaking, and if there are any who are desirous of rendering local services we shall be glad to be furnished with their names, so that the Secretaries may be placed in communication with them. Copies of the programme, with lists of the supporters and subscribers, are now ready, and are being distributed with all expedition, and those who are willing to receive them may obtain them by applying to the Secretaries. A great undertaking of this kind cannot be carried out without funds, and we trust that all who have the welfare of horticulture at heart will come forward and contribute, according to their ability, in furthering this very laudable and important national movement.

## VISITS TO GARDENS PUBLIC AND PRIVATE

## BATTERSEA PARK.

For once in my life I am a radical reformer; and although I showed my devotion to the old orange and purple by travelling nearly a thousand miles to record my vote in its favour, I now beg to propose, as a representative of the horticultural interest, the most out-and-out radical I know — Mr. Gibson of Battersea Park; not that I have the pleasure of knowing him personally, for unfortunately he was out when I paid my visit there, but, judging of a man by his fruits, I hesitate not to say he is that. Farewell to your flaming reds and yellows, a long adieu to your three or four kinds of flowers to produce effect; here is a gardener who lays hold of everything he can that will be effective, who ransacks the stove and the warm greenhouse for plants to produce the most beautiful combinations, and who has, moreover, succeeded *à merveille* in so doing. I daresay there are some who say, "All this is very fine; but you know we have been accustomed to see such things done on the continent, and this is no novelty to us." My good *habitué* of the Champs Elysees or the Parc de Monceaux at Paris, of the Coursal at Homburg or the Cascino at Florence there is not one of these that can for a moment compare with the sub-tropical garden at Battersea; and *blaze* as one is



with garden sights, here is the man to whom Alexander might have given his prize, for he has invented a new pleasure for gardeners, the surprises of which are not exhausted, but, on the contrary, will every day be increasing as new plants are brought into notice and experimented upon for out-of-door purposes. I had travelled all night from Dublin, and having a few hours to spare before going south, I betought me of Battersea; and taking a boat up to Chelsea was enabled, through the kindness of Mr. Bull (to whom and to Mr. Veitch I paid a flying visit and saw, as one always does, much in both places of novelty and interest), to spend a short time there. As I drove along through the Park I could see that the ordinary bedding-out style was carefully attended to, and hundreds of thousands of plants arranged in the most effective manner; but it was to the sub-tropical garden I was bound, and these were, therefore, but slightly noticed, and, indeed, so hurried was my visit, that I can only briefly tell of what I saw. And I would here say that, beautiful as this now is, in a very short time another and a larger piece, including some water, will be added to it—a portion I did not see, but which I hope some day to ask Mr. Gibson to show me.

On first entering there was before me a long oblong bed of Mrs. Pollock, which effectually answers the question often put as to whether it is a good bedding plant or not. Here it was most beautiful. It was arranged in bands lengthwise in the bed with *Lithospermum fruticosum*. This latter, I think, might be improved upon. It was, I dare say, when in full flower a beautiful contrast; but that was over, and I have no doubt something will be found by Mr. Gibson, if his opinion agrees with mine, to take its place. On the other side of the walk was a bed of the variegated-leaved Vine, edged with a basketwork in which the golden-leaved Japan Honeysuckle (*Lonicera*), was trained. Then one came to beds and borders of Cannas of various sorts; of *Caladiums*, especially the fine large-leaved *esculentum*; *Solanums* looking bristly and formidable, especially *citrullifolium* and *robustum*, but producing a grand effect. But what is that bed in the distance shining with the most resplendent fiery crimson, almost dazzling one's eyes—a bed which I hesitate not to say it is worth going a hundred miles to see? *Coleus Verschaffeltii*, about which many have doubted as to whether it was of any use at all. Here it is the finest thing one can imagine. How it is done I know not; but I looked over the whole bed, and did not see one green spot on any of the leaves. Entering into conversation with one of the gardeners, he told me that it was watered carefully every night overhead, but I rather opine it must have some other treatment to come out as it does here. The bed was edged with *Centaurea gymnocarpa*. The contrast between the brilliant crimson of the *Coleus* and the pure white of the *Centaurea* was admirable. There was another bed of it on the other side equally good, but the effect of which had been, I think, spoiled by placing a row of *Coleus atropurpurea*, a coppery-looking one, between the centre and the edging. Passing along, one came to a large border in which were plants of various kinds—*Senecio Ghiesbreghtii*, Cannas, *Wigandia caracasana*, edged with a border of the *Lonicera* mentioned above. Here again was another bed with a long row of the *Indiarubber* tree, *Ficus elastica*, with its bright glossy leaves and the purplish red of its young growth. Now one came on a row of *Canna purpurea*, very striking; and I would remark of these and other large-foliaged plants grown here that the shelter for them has been so admirably managed that they have not that torn and tattered appearance they sometimes have even abroad, but are all beautifully fresh and green. The border was edged with a long row of *Fresia Herbstii*, a plant which I think will be found effective, and indeed is more so in another part of the Park than here, as it seems to do better in the shade, and in a bed, than in the sunny aspect it had here. Another small bed was filled with *Centaurea* in the centre, edged with Mrs. Pollock *Geranium*; in fact there was no end to the combinations, while single plants of *Dracenas*, *Wigandia*, and other plants of a similar character were introduced wherever practicable to produce effect.

My object in giving this short notice is not to describe the sub-tropical garden, for I should be ashamed to attempt that after so short a visit to it, but just to give my impressions of it as one of the most successful pieces of modern gardening that I know, and to induce any of the country subscribers to *THE JOURNAL OF HORTICULTURE* who feel an interest in such things to lay out for one of their days of sight-seeing Battersea Park; and I am sure that they will, when they see in the estimates a round sum for Battersea Park, say, "And never

was money better laid out than it is there. Vote it by all means, and add another hundred if you can to increase Mr. Gibson's stipend."—D., *Deal*.

## STOCKS, AND THEIR INFLUENCE.

(Continued from page 45.)

Stocks of slow and small growth, also those of a different species or genus from the kind which is to be worked on them, furnish richer sap than a stock of the same kind as the scion, and in such cases a swelling is formed at the point of union, which arrests the sap, and this is then expended in an increased production of blossom and fruit. Thus the scion receives a greater amount of sap than would be supplied by its own roots. Moreover, we may safely conclude that the deposition of cambium is also greater, and this secures the ripening of the wood: hence we find such trees have a tendency to make little wood, the sap being expended in the production of blossom and fruit.

Whilst stocks of restricted and slow growth, and those of a different species or genus, add to the production of blossom and the size of the fruit, as well as its quality, it is certain that the increased productiveness is permanent; indeed, the crops annually increase, the greatest care being needed to prevent overcropping, and hastening the death of the trees. The increased productiveness is so permanent, indeed, that when the tree ceases to be productive it dies. It has been contended that trees so worked are short-lived; this is, undoubtedly, the case when they are compared with those on stocks of their own kind, still I think that in most cases they will be found equally durable as fruit-bearing trees, if we consider that they arrive at a fruiting state earlier, and continue in bearing whilst those worked on stocks of their own kind are only undergoing a preparatory process. We may conclude that such trees are only short-lived when the stock grows in rich soil, and the pruning is too severe. An excessive use of the pruning-knife, especially for the reduction of parts not wanted to produce fruit, generally causes disease, which is one of the greatest objections raised against stocks of slow or less growth, and of a different species from that worked on them. I shall not contest the point that they debilitate, but will admit the soundness of this view of Mr. Knight and all physiologists since his time. Granted that such unions do debilitate, we have to inquire into the cause of the debility or premature decay of the tree, or a part of it. Now, the ascending sap being richer, and the descending current arrested, it follows that there will, to a marked degree, be a greater deposition of matter in the scion than in the stock. This matter, from the increased quantity of blossom and fruit, is certainly cambium, which will be either gummy or mucilaginous; gummy in stone fruits, as the Apricot, Peach, Plum, and Cherry; and mucilaginous in the Pear and Apple. Any addition to the natural deposition of this matter must necessarily lead to a closing of the ascending and descending channels of the sap. Hence the sap will flow less abundantly into the old shoots than in new wood, and they will in time have the sap-vessels so small as to cause the total exclusion of the sap from that part, resulting in its death, or becoming so weak as to be incapable of producing fruit of the usual size and flavour. Of fruits exhibiting this disease in a marked degree, the Apricot affords an example; the Peach also, but to a less extent; and they are on stocks of another genus. Next in order come the Cherry on the common Cherry stock, and the Plum on its Brussels stock. With the Apricot there is an exudation, sometimes also in the case of the Peach, but in the latter it is more confined to the wearing out of the shoots, and on this account we have the bearing-wood of Peach trees annually replaced, though this is by no means necessary to obtain fruit, as such is readily produced on spurs. The Plum and Cherry occasionally lose their branches, and those of the first remain weak and unfruitful in consequence of a deficiency of food, rather than from any debility of the tree arising from the stock. There seems to be no permanent remedy for this evil other than working the Plum on a stock of its own peculiar kind.

From some experience, I am led to draw the following conclusions in respect to stocks of smaller and slower growth than the trees grafted or budded upon them. 1st, They are desirable for early-producing trees, and when the space for their heads is limited. 2nd, The trees grow more freely on them than on stocks of their own kind, but such growth is of short



duration, and can only be maintained by rich soil, and considerable reductions of the annual growths, which are a fertile source of disease and early death. 3rd, Any great reduction of the head at the winter pruning causes increase of wood, exhausts the energies of the stock, and is obtained at the expense of a plentiful crop of fruit; it also induces disease and early death. 4th, The grafting or budding on stocks of slower and less growth, and also on those of a different species or genus, though it renders trees very fruitful, may be carried too far, as, for instance, in the case of the Apple on the Pear. 5th, The trees should not be induced to make large annual growths to be cut away or reduced considerably at the winter pruning, growth only being needed until the allotted space is covered, after which the vegetation of the stock and scion should be balanced by judicious summer pruning. 6th, The trees worked on them produce fruit or flowers at an earlier age, but not at an earlier season, and the fruit is more abundant, larger, and of higher flavour than on stocks of their own kind.

Now as to budding or grafting on stocks of a growth approximating to that of the scion, it is certain that we follow a more natural process; but then we must provide for each kind space for the full development of its head, otherwise it will prove unfruitful. We must give the Apple and Pear their place in the orchard, and have walls and houses sufficiently large for the full development of all trees requiring protection in our climate. We must be content to see trees growing, but seldom fruiting or blooming; to plant an orchard for another generation, and to plant a vineyard and let another eat of the fruit thereof. It really seems contrary to the order of cultivation itself. We invariably like the animal with small bones and abundance of fat, and we of the sister art surely do not want large boughs without flowers, long branches without fruit. I am not prepared to state that this is the result of grafting or budding on stocks approximating in growth to the variety worked, for I know the best results attend such a union of favourable influences; but we must not limit the ultimate growth of the kind to one-third or one-half the space that it would require when it arrives at a state of maturity. When we employ a stock for grafting or budding upon approximating in growth to the scion, we must provide space for it the same as if it were growing in a state of nature, annually increasing until the natural size be attained. I think the prevailing opinion that the "graft overruleth the stock quite" is an absurdity, for it is pretty certain that the stock will continue to grow up to the age natural to it, and then it will take a downward course irrespective of any influence of the scion. We see the Pear on the quince luxuriant for a time and requiring biennial or triennial removal to keep it in a fruitful state, but after a time the Pear does not need this removal, the growth being small and the tree very productive. If the graft overruled the stock, the Pear would go on growing until it became a tree 40 feet in height, yet it remains a fruitful tree at the height of a quince. The Apple on the Paradise is generally a productive tree, but when it is limited to a small space it is for the most part unfruitful after that space becomes covered; in a word when we employ stocks of approximate growth with the scion we must provide space for the full development of their heads or restrict the root-action in a corresponding degree with the limits of the branches. Such stocks are then injurious, inasmuch as they supply more nutriment than can be expended in the production of blossom and fruit, and the consequence is abundance of sap wood in the place of either. The main characteristics of a stock approximating in growth to the scion are, that the stock and scion remain nearly of the same size at the point of union, the sap flows more freely, both ascending and descending, consequently the trees have a tendency to grow upwards, leaving the lower parts of the tree weak and bare, to which I may add that the trees are remarkably healthy, but are more impatient of the knife than those on slower and smaller-growing stocks. From a tendency to grow upwards we frequently find the Apple on the Paradise losing its branches when trained horizontally, and shooting strongly from the upper part of the trunk and espalier. So long as there is space for the annual increase in size, the growth of stock and scion correspond, but after the space becomes occupied it is no unusual occurrence for the scion to grow in advance of its stock, and exhibit all the evil of a tree on a stock of stronger growth, the tendency to make wood instead of fruit.

Grafting or budding on stocks of stronger growth is rarely practised, and only in cases where it is desirable to give increased vigour; the stock in this case grows in advance of the scion, but the tree is no stronger after all, and its fruit is not

increased in size, and is less plentiful. It is in truth planting a tree with its roots upwards, for the scion having smaller sap-vessels the sap does not flow freely into it, and the result is an abundance of suckers from the stock; the scion receives no more sap than its vessels will admit of, and that of the thinnest and poorest description. Then the descending sap is not arrested, but flows downwards freely into the stock, causing a greater deposition of cambium in it than in the scion. The tree, it is true, is for a time rendered more productive, but its fertility is of short duration, and the branches in a short time become decorticated as if ringed, and roots are emitted from these parts if they are covered with moss and kept moist, or placed in the soil, just as if nature sought to provide what is necessary for the existence of the tree.

Finally, if we wish for healthy trees, long-lived and continuously productive, we must select stocks of similar habit, and earliness of growth, and not prune or limit the annual growths much at the winter pruning. When stocks of slower and smaller growth, or of a different species or genus, are employed we must keep up an abundant supply of sap by high feeding or manuring, and not prune excessively if long-lived trees are wanted, pruning having a tendency to cause the production of young wood and finer fruit for a time, but its effects are temporary and end in early debility and death.—G. ABBEY.

## THE MODERN PEACH-PRUNER.—No. 13.

### THEORY OF CLOSE PRUNING.

The history of this part of our subject is somewhat obscure, and though interesting in itself, a brief notice will suffice. The present style is, no doubt, only a revival of what had been touched upon by Keith in this country, and De La Quintinie in France, nearly at the same time—that is, about 150 years ago. For a certain period no progress seems to have been made, though the matter was freely discussed in both countries. We may, therefore, take the late Mr. Knight, a very competent authority, as a fair exponent of closer pruning in more recent times. The passage is quoted by McIntosh, and is as follows:—"Instead of taking off so large a portion of the young shoots, and training-in a few only to a considerable length, as is usually done, as I should myself do in every favourable situation, I preserve a large number of young shoots which are emitted in the early spring by the yearling wood, shortening each where necessary by pinching off the succulent points, generally to the length of 2 or 3 inches. Spurs, which lie close to the wall, are thus made, upon which numerous blossom-buds form very early in the ensuing summer; and, upon which, after most unfavourable seasons, and in situations so high and cold, that the Peach tree in the most favourable seasons had usually produced only a few feeble blossoms, I observed as strong and vigorous blossoms as I usually have seen in the best situations and seasons, and I am quite confident that had the Peach trees in gardens round the metropolis been pruned in the manner above described—that is, upon spurs, in the last season, abundant and vigorous blossoms would have appeared in the spring."

Mr. Knight then proceeds to recommend a mixed system of long and close pruning, which when judiciously carried out is very successful. It indeed requires some experience in the selection of the proper class of shoot. Mr. Knight seems to be disposed, however, not to trust the whole crop on spurs formed by close summer pruning. In "warm situations," the ordinary long pruning, he says, may answer; but "in cold and late situations then try the spur method. A mixture of both modes, in every situation, will generally be found to multiply the chances of success, and, therefore, neither ought to be exclusively adopted nor rejected in any situation." This is sound and practical counsel, and comes from an excellent authority; and McIntosh, alluding to these remarks, says of them, that they are "well worthy of the attention of Peach-growers in all situations, even in favourable localities, but especially so in cold and late ones."

Since these opinions were published, Peach-pruning has considerably advanced, and it is not too much to assert that orchard-houses have revolutionised the whole system. A similar change seems to be imminent in France and elsewhere.

In France, especially, close pruning has at present numerous advocates. Though, as we have seen, this system is only a revival, there is no doubt that the Imperial Society of Horticulture of France is justified, in its report of 1862, in speaking as follows:—"We must leave to M. Grin, of Chartres, the



honour of having at least popularised the original idea; a fact which has the real merit of a veritable initiative." Speaking of close pruning, Professor Dubreuil says—"I saw in M. Grin's gardens such excellent results from this method, that I hesitate not at present to recommend it to the exclusion of every other." In Professor Gressent's late work (which has the sanction of the Minister of Agriculture and Commerce), it is stated that M. Grin, being convinced of the many disadvantages resulting from the old system of long-pruning, applied himself for a lifetime to work out a newer and more profitable way, and finished by obtaining a complete success. The shoots, he says, being so short the branches may be double in number, and each of the closely-pinched-in shoots bears at least as many Peaches as the *coursounes de Montreuil*. Professor Gressent then adds, that the complete success which attended M. Grin's labours, caused him much envy and resistance in his native country, but that having, like M. Dubreuil, visited Chartres, he was so convinced of the advantages of the new style that he has ever since adopted it. In his work of 1863 he describes it, and says that he has followed it on a very large scale, and introduced some important modifications, which, being similar to some tried in my own garden, shall be noticed presently.

M. Grin has laboured under some disadvantage in having his ideas first presented to the world in the works of others. Though fairly enough described, the actual experience gained is not represented, nor his latest ideas, and it is with a certain pleasure that I am able to state, that these lines are the only authorised exposition of the whole system in its latest development, and that by them alone the originator wishes English gardeners to learn it. Having myself followed the system for ten years with some success on the open wall (the first occasion on any scale in which it has been thus tried in this country), and having applied it to the back wall of an orchard-house, with diagonal cordons (also a novelty, as described in a former work), a certain experience has been gained not without value.

On the practical advantages to be derived from close pruning, M. Grin thus speaks—"Whatever form may be selected for the trees (his were horizontal cordons with a single central stem, and single diagonal cordons), first establish well your principal branches. On these, by close pruning to two leaves, short spurs are formed which bear fruits of equal size in every part of the tree year after year. It is true that M. Lepère by a different system (long pruning), produces good crops, but nine out of ten fail because they do not possess the constant practice and special science required for such a style of pruning. Some eight or ten successive operations are required in long pruning, all requiring an exact appreciation which does not belong to the generality of gardeners. On the other hand, close pruning has the immense advantages of simplicity and economy of time and money. There are no tedious *tyngs-in* of the summer or winter wood. The main branches are only 10 inches apart (and here let me observe that 6 inches would be better), therefore, without a given amount of wall space we can obtain a double amount of crop. Lastly, There are few or no amputations of important branches, and this alone constitutes an appreciable gain, even to suppress 'gourmands' (gross shoots of Class 4), or to shorten extensions where needed. Every amputation however well performed causes a perturbation in the economy of the tree. Why not anticipate the causes which necessitate amputations, rather than have the merit of curing them? Besides this, even clever gardeners cannot always succeed in remedying the evil effects of wounds on the tree."

The above are the chief reasons given by M. Grin for adopting very close pruning or summer-stopping of the shoots. In fact, there seems no reason whatever why a well-furnished main branch should ever be shortened at all. If the shoots are kept regularly and closely summer-pruned, the prolongations of the branches may, with the exception of equalising them, be left to themselves. How simple would Peach-pruning become under these new forms! Plant the tree carefully in a well-chosen and well-drained spot, allow it to grow, only balancing it, keep the summer wood short, thin out in winter a little; this, with shelter and destroying insects, &c., is really all.

We can perceive how really simple and easy to perform Peach-pruning is. Good pruning should not differ much in principle whether in the open air or under glass. In either case if we take care of the shoots the branches will take care of themselves. The exigencies of space, of course, require that we should direct the growths in the most convenient manner; but a branch 20 feet long in the open air can be made to form

a compact spiral cordon, occupying little space, round three vertical wires, and no style of training is more beautiful or more productive.

To the above cited well-known names, which are now connected with the success of close pruning, I may add that of Mr. Rivers. Orchard-houses have, indeed, done much for the Peach. Their multiplication induced corresponding developments in training. The great object was, of course, to economise the valuable space, and to do this close pruning was required; and, in consequence, we find the principles of close pruning well described in Mr. Rivers's works on the management of these houses. There need, therefore, be little doubt as to the solidity of the foundation of these truths. As was stated at first, the chief object of these papers was to point out the utility of a system which should serve, with obvious changes, both for the house and for the open wall, and each succeeding season has proved that this is possible.—T. BRÉHAUT, *Richmond House, Guernsey.*

## ONION GRUBS.

VERY often it is easy to prevent the occurrence of a mischief, whereas to remedy it is very difficult. The Onion grub is a case in point, if the information just imparted to us be correct. When the grub has begun to eat the bulb, no remedy is available; the bulb had better be pulled up and burnt, thus immolating the marauder. The parent of these grubs begins to deposit her eggs just within the sheath of the young Onion plants early in May. A preventive of this, we are told, is to sprinkle *fresh* pine or deal sawdust all over the surface of the Onion-bed, as soon as the Onions are well above the soil. The sawdust need not be put on thickly; but a little fresh might be sprinkled on once a-week until the bulbs are safe. We have faith in this preventive, because the turpentine fumes emitted by the sawdust are obnoxious to all insects, and might keep away the flies.

## BEARD'S PATENT METALLIC GLASS HOUSES.

WHEN I wrote the hurried note at page 34, I had just been visiting the excellent Bury St. Edmunds Horticultural Show, held by the kind permission of Lady Cullum in the grounds of Hardwicke House. Without saying anything at present of the fine subjects exhibited, I would merely mention that I was much struck, as already stated, by the rich bright colouring of some *Pelargoniums* and *Petunias*, and on inquiry ascertained that they were exhibited by Mr. Beard, a retired tradesman of Bury St. Edmunds, and came from houses of his own designing and constructing, for the peculiarities of which he had duly protected himself by several patents. Of the patents and the chief particulars patented, I can do and say nothing. I had previously seen several houses put up without putty, and but little painting, but had failed to see any improvement in them, or that they had much except novelty to recommend them. I had heard these houses of Mr. Beard spoken about, as presenting a sheet of light to the plants inside; but I knew that some of our modern orchard-houses admitted rather too much light, in connection with the heat from the sun's rays—at least for the amount of ventilation that could be given. I was also well aware that light was the first essential, provided the ventilation was ample, and that that ventilation did not unduly dry up and parch the plants under the glass. I, no doubt, seemed a retrogressionist to some keen go-forward gardeners, when I said that fine plants could be grown in lean-to and span-roofed houses, built with large squares in the usual modern manner, and that the want of high colouring and robustness in plants was more owing to crowding and growing under the shade of creepers, Vines, &c., than from any deficiency of light transmitted by the glass. I make these statements merely to show that I was not predisposed to approve of these new houses, and now, in reply to a number of inquiries, I would repeat, after having more time to think over the matter, just what was stated at page 34, that the matter of first expense got over, there can be no question of the great improvements.

Through a friend, I was introduced to Mr. Beard, who kindly showed us his different houses, and introduced me to his relative, Mr. E. J. Sanders, of the Victoria Works, Bury St. Edmunds, who manufactures the houses in question, and he took us over the works here. Several houses, lean-to and span-roof, were in the process of building.



I need not at present say anything of the old, heavy, wooden houses that kept out more than a fourth of the light, and entailed a constant expense to keep them slightly and in repair. I need not calculate what even the cheapest modern orchard-houses will cost for glazing and painting after the few first years' wear. I need not speak of the objections to iron houses glazed in the usual way, from the expansion and contraction of the metal, glass, &c. I need not tell of the breakage by expansion, when glass was placed edge to edge without laps, from the putty becoming too hard to permit of expansion. I need not describe how, when large squares were fastened without putty by means of screws and elastic bedding beneath the screws, the glass rattled in a windy day as if it resolved to dance merrily to the inspiring music of the gale; but I must add, that all these drawbacks seemed to be avoided by the simple plans adopted by Mr. Beard.

Light and elegance are secured by making the house an almost continuous plane of glass from the top to the ground level, whether the house be lean-to or span, the sash-bars being strong, elegant, but light, and without any rebates. Ventilation is secured by openings at top by various modes—as lever, rod, &c., and in the front close to the ground, which might be modified in peculiar circumstances. No lap with its accumulation of filth is seen, as the large squares are cut to butt close against each other. No putty is used, and here, I think, will be found the great feature of the plan. A strip of non-conducting elastic material, as asphalt, is placed on the flat upper side of the bar and as wide as the bar, these bars being generally 2 feet apart. The glass squares rest by their edges on this asphalt, another strip is placed over the glass, and then a neat thin iron rod, flat below and rounded above, is laid on the top of the upper strip over the glass, and is connected with the bar with screws, holding all firmly in their place, and yet the elastic material prevents all injury from expansion and contraction. If the glass were fitted edge to edge crosswise, and glazed with hard putty at the sides, there would be danger of cracking by expansion. I should be afraid of the same thing happening if the glass were placed edge to edge crosswise, and the end of one square came close to the end of the other square on the middle of the bar, without rebates, even with the assistance of the elastic material below and above, as the glass could neither expand laterally nor longitudinally. But, now, in Mr. Beard's plan, is a simple but distinct feature. The ends of the large squares do not meet on the middle of the bar, but about a quarter of an inch or so is left between them, and this room for lateral expansion is found so efficient that I was assured that not a single square had been cracked for three years, and that even the lowest squares that abutted over the water-trough passed through the winters unharmed. It will be seen that the system not only does away with puttying at first, but it does away with all chipping and hacking when a square is broken. The thin rod that secures the glass and its bedding to the bar is in several pieces in a roof at all wide, and when a square is broken the two opposite pieces of rod are unscrewed, the damaged square removed, and a fresh one slipped in and screwed down. No glass is proposed to be used under 21-oz. per foot.

Painting, one of the most expensive operations connected with the building and keeping up of glass houses, is hoped will be avoided—first, by the use of galvanised iron. It would be well to obtain evidence as to how long the galvanising would last when exposed to the atmosphere. Even if it proved pretty lasting, the dark dingy colour might be unacceptable to many people, as it will get darker as it becomes older. To remedy this drawback, I was shown iron undergoing a process of enamelling. The pillars, bars, &c., are first painted with red lead and undergo a process of baking, are then several times painted with peculiar white paint, and baked or roasted in a high temperature. Some sash-bars shown me were as hard and bright as white china. Of course, it will have to be proved how long this enamelling will last.

And, lastly, the first inspection showed me that such houses would be valuable for tenants who did not wish to put up what they could not take away. The houses, whether lean-to or span, are supported at the sides by neat iron columns of any requisite height. Each of these columns is hollow, and not only supports the roof and water-spout, but takes the water into a drain or other means below, or a number of the hollow tubes may be stopped if the water is to be taken to either or both ends. Everything is made to fit, and screwed neatly together, so that when all is in readiness a house is soon put up and soon taken down.

I may add, that I know nothing more than what I saw in a short visit, that I did not take a single note, and merely write from memory, that I never heard of the patentees before, that I write this without their knowledge, and having no other object than to make a novelty in the right direction generally known, convinced, if the system answer, it will be used for many purposes besides houses for growing plants, and other horticultural uses.

Perhaps, as already hinted at, the best practical idea involved, is not only the elastic substance beneath and above the glass but more particularly the *open space* between the squares on the sash-bars. No doubt that looks a very simple matter, and so it is when we see it. Anything is simple only when understood. We neglect too often to make valuable discoveries because we look beyond simplicity. Intending builders may now consider and make inquiries for themselves. I have stated all I know at present.—R. Fish.

## MY PLANTS.

### AND HOW AND WHERE I FOUND THEM.—No. 7.

BUT shall I ever be forgiven for wandering so long from my subject of "Plants," to toy amongst the animals and fish of Jersey? Let me at once refer to my notes and *hortus sicens*, and see what were the results of a day spent at Grève de Lecq, in June, 1860. We had long heard of the charms of this beautiful little bay, and determined upon judging for ourselves of the same, and we looked forward with much pleasure to our trip from St. Saviour's to the north-western coast of the island. Rising early and packing up our basket of provisions for the day's need, we started off in a small pony carriage, which had been kindly lent us for the occasion. The sun was shining brightly, indeed, it was one of those gorgeous mornings which, all radiant with the sun's smiles at their birth, so often ere half his race be run, leave us in sorrow and tears. Foreseeing what was likely to occur, we fully provided for the impending rain, and safely packed our waterproofs and umbrellas at the bottom of the conveyance, forming impromptu seats for the two children, very unaristocratic no doubt, and quite unconventional! But bear with us awhile, good reader, for we are unconventional people, and ours are unconventional children, and I may state, that during our return home the horse became unconventional enough to run away.

Our drive was chiefly through narrow lanes, for we were travelling from east to west, and the principal roads in the island run from south to north. The orchards were white with blossoms, fainting in the heat of the mid-day, soon a breeze sprang up, and like a shower of snow in summer, the petals fell thickly upon the green grass. Enjoying the increasing coolness of the air, and pleased that the beautiful blossoms we were watching, and the lowly flowers by the wayside, would alike soon be equally refreshed, we urged our pony forward at a quick pace. Large and heavily fell the tardy rain-drops, the branches of the trees waved to and fro in grateful acknowledgement of the coming benefits; all nature seemed stirred, like children who, having received a promise of some long-looked-for gift from a parent, are now about to realise the fulfilment of their wishes. Passing St. John's Church we were not long in arriving at St. Mary's. As we did so, the rain poured down in torrents, and continued all the time we were descending the lovely valley which leads to the bay. Much to our disappointment, we scarcely saw anything of the banks on either side of us; therefore, an old historian shall take you through the defile. He says—"On quitting St. Mary's Church we soon enter a romantic valley, serpentine between lofty swelling hills richly clothed with Fern and other wild shrubs, that, if less profitable to the owners of the gritty soil than the golden treasures of Ceres or the juicy gifts of Pomona, display a lively verdure on which the eye rests with pleasure. The valley is likewise shaded in different parts with groves of Oak and Fir. At length the winding path descends rapidly to a beautiful cove called Grève de Lecq. This inlet in its full compass may be said to reach from the promontory of Sorel to that of Plemont." Just as we reached the bottom of the valley the rain ceased, and closing our umbrellas the full beauty of the little bay stood out in the sunshine; I thought it one of the most lovely spots we had visited.

Putting up our horse at the hotel, and drying ourselves and the children, we started off to the beach. My husband climbed the almost perpendicular cliffs to obtain a good view seaward, whilst I was searching the sands for Grasses. I had no sea-



side Grasses in my collection, and my delight was great when I came upon the *Elymus arenarius*, Upright Sea Lyme Grass; also, the *Triticum junceum*, Sea Wheat Grass; and the *T. cristatum*. A little further inland I found the *Lepturus incurvatus*, Hard Grass of Sowerby, or the *Rottboellia incurvata* of Withering. There also, was the *Poa loliacea*, and close to it the *Carex intermedia*, Soft Brown Sedge; and *Carex ampullacea*, Slender-beaked Bladder Sedge; with some poor starved specimens of a *Bromus* and *Hordeum*, the latter, probably, the *H. maritimum*, and the former, I believe, was the Soft Brome Grass, and I do not know how many kinds of *Festucas*, but I have marked the *F. miagmuis*; and beside it are several others the names of which I am fairly puzzled to decide. In the same sheet also are two dilapidated specimens of *Bromus maximus*, peculiar, I believe, to Jersey, and rather celebrated from the extreme length of the awns. Nearer the road, about halfway between the beach and the hotel, we come upon the *Poa maritima*, Sea Meadow Grass; and the *Glyceria maritima*, Creeping Sea Sweet Grass; also, some good roots of the *Hordeum maritimum*, better nourished than those growing entirely in the sand and closer to the sea. I considered myself very fortunate in securing so many varieties of my favourites. Saving the falling of my little boy into a gully formed in the sands, which immersed him above the waist in salt water, and the restiveness of our borrowed pony on our return, we met with no very untoward event.

Another day we started on foot to witness a review of the militia belonging to the island. They comprise both artillery and infantry; they are clothed by Government, but receive no pay. Being drilled very frequently they have become a very efficient body of men. There is, also, a juvenile corps, the boys of which are exercised weekly in summer time. It was a pretty sight to see the men collecting from all parts of the island, St. Helier's being their rendezvous. From the top of "Gallows Hill," or Le Mont Patibulaire, which rises above the sandy plain on which the town of St. Helier's stands, we had a fine view of their evolutions.

Wearying after a time of gazing down upon the beach in the full blaze of a scorching sun, I turned my attention to a low wall which was running along the top of the hill at my back, and extracted from it roots of *Festuca rubra*, Creeping Fescue Grass; and *F. ovina*, Sheep's Fescue; and lower down amongst the light sandy soils, the *Poa loliacea*. The damp air of evening was slowly rising ere we turned our steps, tired and fagged as we were, to descend the hill towards St. Helier's, but I was not too tired to notice a, to me, new Grass growing under the wall on the eastern side of the town. I sought for it subsequently in several botanical works, and have considered it the *Festuca myurus*, Wall Fescue Grass; I will not be certain that I am correct, it is a slender Grass with smooth shining stems of about 2 feet in height, rather roughish leaves, the panicle from about 6 to 7 inches in length, unilateral; flowers very small and shorter very much than their long awns; spikelets containing about six flowers. The general appearance of this Grass has something extremely elegant about it; the root, leaves, awns, and flowers, all being exceedingly fine and delicate.

Whilst writing of strolls about this island, my mind again sees a picturesque group by the wayside. A donkey, goats of all ages and sizes, from the ancient, important, and grey-bearded paterfamilias, upon the rock above, to the tender kid quietly cropping the sward below, perhaps thirty in all. And whose keen eye and quick voice reigned over this united family? Who so hastily chid the straying kid, or if wearied took it up in her arms with the affection of a mother? In the midst of her pets stood, with all the authority of a queen, a dark-haired, strange-looking woman. That her eye was wild, her hair undressed, but beautiful; that her manners were those of a lady, all this was seen at a glance, and one was fairly puzzled to guess what delight she could have in passing days, and weeks, and months in the society of creatures of instinct, rather than with rational beings; seldom noticing the passers-by, or if she did so, merely giving an uninterested or cursory glance, she busied herself with her pets, or sat quietly upon a stone, or portion of rock, knitting. Her handsome face was bronzed with exposure to the sun, and rendered coarse with years of battling against the wind and rain. Kind friends there were at home, a room prepared, and affectionate welcome, but seldom did she return thither. Wandering! ever wandering! night and day o'er rock and hill, or down the deep and silent valley midst the roar of the tempest, through the drenching rain, those poor feet, so small, so pretty, so well fitted for the dazzling ball-room, and the comforts of home, foot-sore and

weary, plodded their restless way. Hair falling straight and long from beneath her brown hat, dress bedabbled, jaded as she was, on she went; beneath the parching sun of mid-day, or the chills of night, it was always the same; the morning dew and the evening mist alike saw her pressing on and on into an unseen future, ever striving and never attaining that object of affection, whom years long back (so told the cottagers), some sudden and fearful calamity had torn from her. It was a sight to make all those who saw her, with tearful eyes offer up a prayer that her wandering spirit might, ere long, leaving behind it this unsatisfying earth, with its sorrows and unquiet, attain unto that never-ending "rest which remaineth for the people of God." Nothing would give me purer or more saddened pleasure than to smooth the pillow and comfort the last hours of that most afflicted of earth's children.

"God rest thee!  
We shall go about to-day  
In our festal garlands gay;  
Whatsoever robes we wear,  
Not a trace of black be there.  
Well, what matter? None is seen  
On thy daisied-covering green,  
Or thy maiden pillows, hid  
Underneath a coffin lid,  
God rest thee!  
"God take thee!  
Ay! no other. Sleeps beneath,  
One who died a virgin's death;  
Died so slowly, day by day,  
That it scarcely was decay,  
Till this English churchyard kind  
Opened, and we leave behind  
Nothing but a little dust.  
God is tender. God is just.  
God take thee!  
"God keep thee!  
Nevermore above the ground  
Be there relics of thee found:  
Lay the turf so smooth, we crave,  
None would guess it was a grave,  
Save for grass that greener grows,  
Or for wind that gentlier blows,  
All the earth o'er, from this spot  
Where thou wert, and thou art not.  
God keep thee!"

—ALICE.

## THE GENERAL REJECTION OF TOADSTOOLS.

I FEAR my letter on that species of Agarics called commonly "Toadstools" must have escaped your attention, being satisfied that the importance of the subject has not been underrated by me. I believe this is the only civilised country in Europe where Toadstools are not eaten with relish both by rich and poor, more especially the latter, for whose especial benefit the Rev. Mr. Badham, in his excellent book on "English Fungi," seems to think a kind Providence intended them, spreading them out in waste places, by roadsides, in forest nooks and corners where the poor might gather them without trespass. Mr. Badham, too, gives in his book excellent recipes for cooking the different species of these Toadstools, and in language graphic enough to make the mouth of a London alderman water for a taste. This, too, and August and September, is about the season for these Toadstools; not above one in a hundred being poisonous in England, whilst in the vicinity of Rome, where a much larger per-centage is poisonous, many hundredweights are sold daily in the markets at about 3d. per lb., and bought alike by rich and poor, and eaten as nutritious and palatable food.

Surely it would be a great boon to the poor of this country if the foolish prejudice against these Fungi could be got rid of. In September, after the harvest had been secured and work became slack, the labourer might with little trouble gather a plentiful meal for his family, which would, well cooked, delight the palate of an epicure in Paris.

Mr. Badham tells us the clergy of Confucius in China have published a book enumerating over four hundred vegetable articles of food that the poor might have recourse to in times of dearth—such as the inner bark of certain trees and shrubs, and various leaves, berries, roots, &c., of weeds and plants that grow wild in the fields. Why should not your Journal open the campaign against the foolish prejudice relative to Toadstools and all the Agaric tribe save Mushrooms?—WASOX.

[We are doing the utmost that we can by publishing, for 1s. monthly, four coloured drawings of the "Eatable Funguses;" but we cannot recommend the indiscriminate consumption of "Toadstools." Orfila's "Toxicology," the "Transactions of the London College of Physicians," the "London and Medical



Physical Journal," and other works contain too many painful records of poisoning by Fungi to justify any one in publishing an indiscriminate use of them as food. We published more than twelve months since (No. 138, page 395), the details of a family being poisoned by eating the *Agaricus fertilis*, and gave a drawing of the species.]

## ROYAL HORTICULTURAL SOCIETY.

FLORAL COMMITTEE, July 25.—But few plants were sent on this occasion, and none of any particular interest. Messrs. E. G. Henderson, of Wellington Road, sent their collection of new Fuchsias, two of which received first-class certificates—viz., Enoch Arden and Father Ignatius, the former a neat compact flower, bright crimson sepals, reflexed, large deep purple corolla; the latter with a much lighter corolla. The others consisted of Rose of Denmark, a pale colourless variety; Rhodoric Dhu, dark purple corolla; War Eagle, Village Pet, and Lucy Mills. There was no advance or improvement in many of the older varieties, and it will be long before a more elegant or free-flowering variety is exhibited than *Souvenir de Chiswick*. Mr. Salter, Versailles Nursery, sent a seedling *Nosegay Pelargonium*, *Impératrice des Nougats*, bright red flowers forming a large globular truss. The merits of this seedling will be better known when it is seen bedded out. The plant exhibited had evidently been grown under glass. Messrs. Smith, of Dulwich, sent a pale light blue *Delphinium*, *Madame H. Jaecot*; a small collection of Balsams; seedling *Phloxes*, *Chancellor*, a dark red, and *Beauty of Dulwich*, pale lilac with dark centre; *Fuchsia Eva*, with a double white corolla; *Fuchsia L'Africaine*; *Fuchsia multiflora*, a good market variety; and *Fuchsia Enoch Arden*, which must not be mistaken for Messrs. Henderson's variety bearing the same name. *Zonale Pelargoniums*, *Golden Dwarf*, *Aureum*, and *Bronze Shield*, also came from the same firm. Mr. Townsend, Hornsey, sent two Japanese *Liliums*, the flowers were faded and appeared to have been a dark chocolate, the other a tawny yellow. Mr. E. Davis sent four single flowers of *Lady Sherburne*, double white *Fuchsia*. As no plants were sent, notice could not be taken of them. Mr. Cox, gardener to Earl Beauchamp, exhibited a white seedling *Lobelia*, probably of *L. ramosa*. If suited for bedding purposes it will be a desirable plant—first-class certificate. Messrs. Veitch exhibited *Dendrobium* species, from Australia, sent home by Mr. John Veitch. The same *Dendrobium* was exhibited by Mr. Wilcox, gardener to Dr. Pattison, of St. John's Wood. Mr. Bull exhibited *Allamanda Hendersonii*, a very fine free-flowering plant with large yellow flowers—first-class certificate; also *Bignonia argyræa* violaceous with beautifully marked foliage; the plants were exhibited under glass—first-class certificate. Mr. Cross, gardener to the Dowager Lady Ashburton, sent a *Polypodium* vulgare with forked fronds, or the fronds in pairs on one footstalk. Mr. G. Smith, Hornsey Road, sent two seedling *Fuchsias* with double white corollas, the sepals pale and deficient in colour, and not attractive. Mr. Smith's single white-corolla *Fuchsia Complicata* is far superior to these pale varieties. Mr. Rivers sent a specimen of the Climbing *Devoniensis* Rose, with a shoot more than 10 feet long. Mr. Rivers kindly explained how this vigorous growth was obtained. A drawing of a fine variety of *Lilium auratum* with dark red leaves, grown by Messrs. Cutbush, Highgate, was exhibited by the Chairman, and was much admired.

SCIENTIFIC MEETING—J. J. Blandy, Esq., in the chair. The Rev. Joshua Dix, the chairman of the Floral Committee, read over the list of the awards made by that Committee, and pointed out some of the subjects exhibited. Amongst others he drew special attention to the Climbing *Devoniensis* Rose sent by Mr. Rivers, who made the *Devoniensis* assume that form by budding a strong growing *Perpetual* on the *Manetti* stock, and then budding the *Perpetual* with *Devoniensis*. It was also found that buds from *Devoniensis* thus treated, when single-worked in the usual way, did not differ in habit from the ordinary form of *Devoniensis*. Next year Mr. Rivers hoped to apply a similar process to other Tea Roses with the like result.

Dr. Hogg, the Honorary Secretary to the Fruit Committee, said that before proceeding to consider the subjects brought before that Committee, he would call attention to the report on the early Peas grown this year at Chiswick. It was the practice of the Committee to obtain seeds from the parties who send out the varieties, if possible. Dillistone's Early Prolific, Carter's First Crop, Dickson's First and Best, and Sutton's Ringleader, were so procured. They were all sown in the same piece of ground and on the same day; they all came up on the same day; they all flowered on the same day; they all podded on the same day; they all were fit for table on the same day, and the result of the experiment was, that they must be considered identical. The variety which had the priority of name was Dillistone's Early Prolific. Those who are accustomed to study Peas consider a good sample of Dillistone's nothing but a pure stock of the old Early Kent, a variety very difficult to obtain and to keep true. Of other Peas tried, Laxton's Seedling was very similar to the Avenge and Dickson's Favourite, whilst Carpenter's Express proved to be none other than Sangster's No. 1. Princess Royal was thought to be an improvement on the old Dwarf Marrow. Blue Excelsior struck the Committee as being a remarkably distinct Pea. A number of others

were found to be exactly synonymous with Veitch's Perfection. Passing on to the subjects submitted to the committee, Mr. Rivers had sent a collection of White Grapes, all of them belonging to what the French call "Muscats" and the English Frontignans, as they have round berries, whilst in what are called Muscats in this country the berries are oval. The Frontignans possessed a Muscat flavour, a quality which was highly developed in *Chasselas Musqué*; the great advantage of this *Chasselas* was its being earlier than the true Muscats, and ripening in a cooler temperature; it had, however, the evil quality of cracking, but within the last few years a new race had been introduced which did not offer this drawback, and of such Mr. Rivers's Grapes consisted. Of Muscat Salomon of the French, or Early Golden Frontignan, the great recommendation was that it was three weeks earlier than the Black Hamburgh, and produced bunches from 12 to 18 inches long. The colour, as he could affirm, was much more golden, in fact he had seen it deep amber. Early Smyna, Muscat de Smyrno of the French, was also a form of White Frontignan, not so early as the preceding but hardier, and would probably succeed out of doors, at all events it would ripen well in an ordinary greenhouse. Early Silver Frontignan had a larger berry, a very thin skin, and was eight or ten days later than Early Golden Frontignan and the same number of days earlier than the Black Hamburgh. The Black Bordeaux, received by Mr. Rivers under the name of Muscat à gros grains, was much more sugary than the Black Hamburgh, and a month earlier. Muscat Champion, sent by Mr. Veitch, was stated to be a most valuable acquisition, possessing berries as large as those of the Mill-Hill Hamburgh, with a strong admixture of the Muscat flavour, the latter quality in particular rendering it highly desirable. A Raspberry from Mr. Graham, of Cranford, was remarkable for its large size, but as it had not as yet been subjected to careful cultivation the Committee wished to see it again before deciding on its merits. There was also a Black Currant from Mr. Ford which was stated to hang a month later than any other kind, but the berries were small and acid. A Raspberry came from Messrs. Cutbush, of Highgate, the merit of which consisted in its coming into bearing after all the other red summer Raspberries were past, but as regards flavour it was not considered fit for table, and seeing that autumn-bearing varieties of better flavour already existed, no award was made. Some Cherries were also exhibited by Mr. Rivers. Of these the Large Purple Gean came in after all the Bigarreaux were over; and the Love Apple Cherry belonging to the Late Duke class was very large, being an inch across, had a colourless juice, and was furrowed like a Tomato. Mr. Ingram exhibited a seedling Peach called *Frogmore Golden*, but it was not so large as Crawford's Early, which was a freestone, and it was not so delicious as that and some others. It was therefore doubtful whether the variety in question was required. In conclusion Dr. Hogg directed attention to two Apricot trees in pots which Mr. Rivers had sent, first to show that fruit trees in pots bearing ripe fruit can be transmitted to a distance, and second to prove that Apricots can be grown in pots. The whole secret of their culture in that way was very simple—it simply consisted in giving them plenty of ventilation whilst in bloom, even 3° or 4° of frost would not injure them then. The rationale of this was, that when the orchard-house is kept close whilst the trees are in bloom there is such an amount of moisture in the air that fertilisation cannot take place. Mr. Rivers stated in a communication addressed to him (Dr. Hogg) that chalk existed in the soil which was used for potting, but in what proportion he (Mr. Rivers) did not know, as he had sent the soil to be analysed; but one-twelfth or one-tenth would not be too much.

The Rev. M. J. Berkeley said there were not many plants to comment upon, but he had an interesting fact to communicate in reference to hybrid Ferns. Every one knew that in cultivating Ferns vast numbers of *Gymnogrammas*—golden, silver, and grey—were freely produced in the same house, and they were believed to be hybrids, but no one had proved them to be so. He had now, however, a veritable case of a hybrid Fern. Mr. Robinson Scott enclosed a frond of an *Asplenium* which he had found in a rocky place about eight miles from Philadelphia, on the banks of the Schuylkill river. It was surrounded by *Camptosorus rhizophyllus* and *Asplenium ebeneum*, had some of the characteristics of both, and was distinct from anything described by Dr. Asa Gray, in his "Flora of the Northern United States." Sir Wm. Hooker had declared it to be new. Mr. Berkeley then described the leading characteristics of *Camptosorus rhizophyllus*, *Asplenium ebeneum*, and the hybrid. The production of such a hybrid was not of botanical interest only, but of horticultural importance; for if any horticulturist could obtain hybrid forms, there was no doubt that it would prove very profitable. He had prepared a set of drawings to show that it was possible to do so. The spore of a Fern consisted of an outer and an inner case, and if placed in proper circumstances of moisture, &c., the envelope would split and a rootlet be thrown down. Every healthy spore produced antheridia containing a slender filament, which, on the antheridium bursting, floats about; and on coming in contact with the embryo sac containing the ovule, it penetrates the sac and the development of a fresh plant commences. Impregnation between two different Ferns, therefore, could not take place unless there was a drop of water present by which these filamentous bodies could be carried to the embryo sac; and by a little delicate manipulation it might, therefore, be possible to bring the contents of the antheridia of one Fern in contact with the ovules of another, and so produce a hybrid. After briefly noticing a few of the plants, and two monstrous forms of *Plantago major*, Mr. Berkeley observed, that from



several quarters he had received mildewed Peas and Beans, and that there was a great probability of the Wheat crop being attacked this autumn, though it might escape if the weather were fine.

**SHOW OF FERNS AND THEIR ALLIES, July 29th.**—This, the last of the special shows for the season, was rather extensive, and had a pleasing effect, though, from the absence of plants with coloured foliage, the Ferns, graceful as they were, did not appear to such advantage as they otherwise would have done. Large masses of bright colour unrelieved by green foliage are wearisome, almost painful, to the eye; and foliage of the same hue and general character in like manner becomes monotonous. In natural scenes, indeed, green foliage predominates, but it is varying in tint, in outline, and in size, is exposed to the play of light and shadow, and is seldom entirely motionless. A long stretch of level green pasture without a flower, or tree, or animal upon it, however beautiful the green, if viewed apart from surrounding objects would not be pleasing, and even the wide fields of golden grain soon cease to please if dissociated from surrounding objects and from the ideas of peace and plenty to which they give rise. The great fault of the Show was, that when viewed as a whole there was too much sameness in colour and general character, but this was a fault inherent to the very nature of the Show and not to Mr. Eyles's arrangement, for he produced the best effect which it was possible to obtain from the materials at his command.

Class I. was for twelve exotic species. Here Mr. Bull took the first prize with well-grown plants of *Marattia elegans*; *Dicksonias calceata*, *antarctica*, and *cinnamomea*; *Gleichenias fabelata*, *microphylla*, *hecostophylla*, and *dichotoma*; *Cyathea medullaris*; *Alsophila australis*; *Blechnum corcovadense*, and *Platynerium alcinorne*.

In Class II., nine exotic kinds, Mr. Cross, gardener to the Dowager Lady Ashburton, was first with good examples of the Bird's-nest Fern, *Dicksonias*, the pretty *Cheilanthes lundigera*, *Cyathea Smithii*, *Cibotium Schiedei*, and *Lygodium scandens*. Mr. Barnard, gardener to J. Taylor, Esq., was second, and Mr. Young third.

In Class III., for six kinds, Mr. Young was first with fine plants of *Woodwardia radicans*, *Phlebodium aureum*, *Adiantum formosum*, *Stenochloa scandens*, *Blechnum brasiliense*, and *Platynerium alcinorne*. Mr. Bull was second, having among others the beautiful *Gleichenia spelunca*, *Cibotium princeps*, and *Alsophila australis*; and Mr. Barnard, third.

Variogated exotic Ferns, shown under Class IV., were confined in the three successful collections to *Pteris argyrea*, tricolor, and cretica albo-lineata, of which good plants were exhibited. Mr. Bull had in addition, *Pteris nemoralis variegata*, *serrulata variegata*, and *argyrea sublobata*. Mr. Barnard was first; Mr. Weston, gardener to D. Martineau, Esq., second; and Mr. Young third.

In three tree Ferns there were only two competitors, Mr. Bull and Mr. Young, who were first and second: those from Mr. Bull consisted of *Cyathea medullaris* and *dealbata*, and *Dicksonia antarctica*. Mr. Bull likewise exhibited *Hymenophyllums*, and Golden Ferns. The best of the latter, however, came from Mr. Young, and consisted of *Gymnogrammas chrysophylla*, *ochracea*, and *Lauchiana*.

Of British Ferns very excellent collections were shown by Messrs. Ivery & Son, and Messrs. A. Stansfield & Sons of the Vale Nurseries, Todmorden, who had equal first prizes for twelve. Messrs. Ivery had *Athyrium Filix-femina* *Fieldiae diffusum*, *Frizelliae nanum*, *plumosum*, *ramo-cristatum*, *Lastrea Filix-mas Bollandiae*, *cristata*, the crested Royal Fern, *Limestone* and *Welsh Polypody*, *Polystichum angulare decurrens*, *proliferum* *Wollastonii*, and *Scolopendrium vulgare crispum*. Messrs. Stansfield had *Asplenium marinum*, *Athyrium Filix-femina* *Fieldiae*, *plumosum*, *Vernoniae*, *Lastrea Filix-mas Barnesii*, *Lastrea montana* *Nowelliana*, the crested Royal Fern, *Polystichum angulare Wollastonii*, *contractum*, *lineare*, *oxyphyllum*, and *plumosum*. Extensive and excellent collections containing many rare and curious forms were shown by the same exhibitors, Messrs. Ivery receiving a first and Messrs. Stansfield a second prize. Mr. Bull and Mr. Kilmister likewise exhibited British Ferns. The latter was first for six, Mr. Young being second, Mr. Earley, Digswell, third.

Of Lycopods, numerous fine pans of the usual kinds were shown by Mr. Higgs, Mr. Young, and Mr. Barnard. For nine, Mr. Higgs was first, and Mr. Barnard second. For six, Mr. Young was first with large pans, and Mr. Higgs second.

Other subjects consisted of some moderate-sized *Fuchsias* in very good bloom, from Mr. Weston, gardener to D. Martineau, Esq.; *Petunias*, from Mr. Macintosh, Hammersmith; *Acrides odoratum*, grown in an average winter temperature of 45°, and the brilliant *Echmea fulgens*, from Mr. Earley; a fine plant of *Caladium argyrites* from Mr. Young; and *Lilium auratum*, fine pots of *Adiantum cuneatum*, *Leptopteris superba*, and a beautiful example of *Todea pellucida*, from Mr. Bartlett, of Hammersmith. Some good Holly-hock blooms were shown by Mr. Porter, gardener to the Hon. A. Ashley, Epping; cut Roses by Mr. Clarke, Brixton; a collection of ornamental Grasses by Mr. Turner, Notting Hill; and the beautiful new *Geranium*, Dowager Duchess of Sutherland, noticed at page 47, and several unnamed seedlings, by Mr. Fleming, of Cliveden, who also sent flowers of *Bignonia chirere*, excellent Black Hamburgh Grapes, Peaches, and Nectarines. Mr. Merrett, gardener to H. Whiting Esq., Battersea, also exhibited excellent Peaches, and Mr. Earley good Apricots. *Adiantum Farleyanum*, a handsome new Fern, had a first class certificate.

## ENTOMOLOGICAL SOCIETY'S MEETING.

The July Meeting of this Society was held on the 3rd ult., the President, F. P. Pascoe, Esq., being in the chair. Fourteen new members and four annual subscribers were elected into the Society. The Secretary announced that a new part of the Society's "Transactions," consisting entirely of the commencement of Mr. Baly's descriptions of the plant-feeding species of Beetles captured in the islands of the Eastern Archipelago by Mr. A. R. Wallace, was ready for distribution among the members.

A vote of thanks was unanimously passed to W. Wilson Saunders, Esq., for the handsome entertainment given by him to the members of the Society at Reigate.

Mr. Frederick Bond exhibited specimens of *Toxocampa Cracca*, bred by Dr. Knaggs; also, of *Eupethecia pulchellata*, reared from the Fox-glove; and *E. campanulata*, a new species bred by the Rev. H. Harper Crewe, from larvae found in a Beech wood near Tring, feeding on the flowers of *Campanula trachelium*.

Mr. Stainton exhibited the curious broad and flattened cocoons of *Pyrallis glaucinalis*, bred by Mr. Edwin Brown, of Barton-on-Trent; also, the very minute larvae of *Cemistoma Lotella*, found feeding within the leaves of *Lotus major*, near Scarborough, by Mr. Wilkinson.

Dr. Armitage exhibited specimens of both sexes of a remarkable Moth, allied to *Oiketicus kirbyi*, from Monte Video, the female of which is destitute of rudiments of legs and wings, and never quits the cocoon or even the chrysalis skin.

The Rev. Hamlet Clark read a letter from the *Ceylon Examiner*, respecting a remarkable species of Firefly, having a considerable number of luminous patches on each side of the body, and referring to the simultaneous flashing and extinction of the light by numerous Fireflies, as alleged by him at a former meeting, but which had been opposed by several entomologists who had been in tropical countries—namely, Messrs. Salicé, W. W. Saunders, A. R. Wallace, and Bates. Mr. Clark read the following letter from Mr. Alexander Fry:—"I can confirm your observations, that the Fireflies of the genus *Aspisoma* of Castelnau (corrected into *Aspidosoma* by Lacordaire), flit at night in great numbers over low-lying damp fields, chiefly near water, emitting light by short dashes, at intervals of three or four seconds, the majority keeping time with each other, as if in obedience to the baton of a leader. I think it is only the Fireflies of that genus which practise it, the numerous Fireflies common in Mexico and North America, belonging chiefly to the genera *Ellichma* and *Photinus*, whose habits are different, so far as I have had opportunity to observe their congeners in Brazil." Mr. Clark also exhibited a considerable number of minute insects collected in central India, by Lieut. Hobson, transmitted by post in small tubes to this country.

A note was read from the Rev. Douglas Timmins, containing an account of a month's collecting of Lepidopterous insects in the spring, in the neighbourhood of Cannes.

A note was communicated by Mr. W. F. Evans, relative to the luminosity of the genus *Fulgora*, confirmatory of the statement of Madame Meriau, which had been opposed by Mr. W. S. McLeary, and others. Mr. Evans had sent a figure of the *F. latermaria* to his son, who is in the commissariat department in British Honduras, and received in due time the following statement from him:—"Belize, May 17, 1865.—I have succeeded in my entomological researches about the Lantern Fly. I had one given me, caught here, alive, and I saw it myself giving light. I kept it under a tumbler for about a day, and it sometimes did not give it, but at others it did."

The Secretary read a notice containing the statistics of "la Gâtine," a disease to which Silkworms are subject in the great silk-producing establishments in the south of France.

Mr. Pascoe stated, that eggs deposited by some of the female Dog Ticks, exhibited at one of the spring meetings of the Society, by Capt. Cox, had recently hatched.

## GREAT ROSE SHOW AT BRIE-COMTE-ROBERT.

On the 9th of July, for the first time in France, we had the treat of admiring a special Rose Show. It took place at the small town of Brie-Comte-Robert, the centre of the fertile Brie, where Roses are so extensively grown in fields by about eighty cultivators. It was apprehended after such an unusually dry and hot season, that the day appointed for the Show would be rather late, but thanks to the efforts of the principal growers, and to the skilful management of more than a million of trees, the exhibition was a decided success. Whoever has not had the good fortune to witness this most gorgeous display of the "queen of flowers," cannot form an idea of its grandeur. The Show was held under a vast tent of about 150 feet long by 50, in the middle of which were large beds, and all around, upon stages, were set the various collections. Imagine the effect thus produced by upwards of 60,000 Roses. There was one bed consisting of about 5000 blooms of that old but still much-valued Rose du Roi, and a show it was of itself, well deserving the gold medal awarded.

The finest collections were shown by Mons. Granger, at Suisses, near Brie-Comte-Robert, consisting of 380 splendid



varieties; by M. Scipion Cochet, of the same place, 375 varieties; and by M. Aubin Cochet, of Grisy, Suisnes, 220 varieties.

Of smaller collections, not less admired, there was M. Gautreau, père, and M. Cochet, père, both of Brie Comte Robert, 120 varieties, and M. Ladechaux, of Villeceresnes, 180 varieties.

Of seedlings, M. Granger, had Exposition de Brie-Comte-Robert; and M. Gautreau, père, Camille Bernardin, both very fine Roses, universally admired, and which will, no doubt, be welcomed on the other side of the water when sent out.

For bouquets and table decorations, several prizes were given, as well as for smaller collections of Roses, which, though small, were not without interest. I subjoin a list of some of those which may be considered the cream of the exhibition. They were all represented in beautiful specimens. Maréchal Niel, Anna de Diesbach, Kate Hausburg, Baronne Pelletan de Kinkel, Maurice Bernardin, President Lincoln, Impératrice Eugénie, John Appert, Sénateur Vaise, Duchess of Norfolk, Madame Partado, Comtesse Cecile de Chabillant, Madame Victor Verdier, General Washington, Madame Eliza Vilmorin, Souvenir de la Reine de l'Angleterre, Eugène Appert, Madame Eugène Verdier, Charles Lefebvre, M. Alphonse Eclin, Denis Helye, Madame la Baronne de Lassus St. Genies, Madame Boutin, Charles and Louise Margottin, Maréchal Vaillant, Monte Christo, Prince Camille de Rohan, Deuil de Prince Albert, Victor Verdier, Reine des Violettes, Madame Boll, Empereur de Maroc, François Lacharme, Vicomte Vigier, M. Charles Crapelet, Sœur des Auges, Baron Rothschild, Bernard Palissy, Maréchal Souchet, Duchesse de Morny, &c.

The Censors were the following highly respectable gentlemen:—M. Charles Baltet, of Troyes; Guillot, père, of Lyons; Eugène Verdier; Dupuy-Jamain, and Levesque, fils, of Paris; Desfosses-Thuillier, of Orleans; and Safray, of Rouen.

I understand that henceforth an annual show of Roses will be held at Brie, and I, therefore, earnestly advise British rosarians to come next year and see for themselves such a sight as they will never see at home. Those who call from time to time upon the Parisian Rose merchants, have no idea of the extensive cultures of the real growers at Brie.—FERNAND GLOIRE, *Les Sablons, Seine et Marne*.

## PRESENTATION TO MR. INGRAM OF FROGMORE.

For some months past a movement has been in progress among the friends of Mr. Ingram, at Frogmore, to raise a subscription for the purpose of presenting the respected gardener to Her Majesty, with a tribute of their affection and esteem on this the fiftieth anniversary that he has presided over the Royal gardens at Windsor and Frogmore. The subscription list having been closed, the Committee of Management appointed a deputation of their number to proceed to Frogmore on Saturday last, and present the testimonial. The deputation consisted of Dr. Hogg, Chairman of the Committee; Mr. John Lee, of Hammersmith; Mr. Edward Brown, of Slough, Secretary to the Committee; Mr. Charles Turner, of Slough; Mr. Stains, of Harewood Square; and Mr. John Fleming, of Cliveden. The testimonial was presented by Dr. Hogg, in the name of the subscribers, and consisted of a handsome silver tea and coffee service, manufactured by Messrs. Garrard, the Crown jewellers of the Haymarket; a gold watch made by Frodsham, of the Strand; and a purse containing 150 guineas. The watch bore the following inscription:—Presented to THOMAS INGRAM, Esquire, by his friends on the 50th anniversary of his services in the Royal Gardens, Windsor, July 1865." Accompanying the presentation was a list of the subscribers neatly engrossed on a roll of vellum. Dr. Hogg, in presenting the testimonial, said:—

"Mr. Ingram,—It would be affectation on my part if I were to assume that you were unaware of the object of our visit to you to-day. I have reason to believe that you are not ignorant of the fact that for some months past a number of your friends have entertained the idea of presenting you, on this, the fiftieth anniversary of your services at the Royal Gardens at Windsor and Frogmore, with a substantial testimonial of their esteem for your personal worth, and their appreciation of your professional ability. That idea has become a reality, and we are here to-day—a deputation from the subscribers to that testimonial—to perform the pleasing duty of presenting it to you.

"I am flattered, sir, that it has fallen to me to perform this

pleasing act; but I feel, also, that there are others to whose hands the work might have been more advantageously committed. There are those present, and there are among those whose names are inscribed on this roll some who have known you far longer than I have done, and on them I should have preferred that the office had fallen. But although my personal acquaintance with you may not have extended so far back as theirs has done, yet, connected as we are with the same country—nay, even with the same locality—my knowledge and appreciation of you extend to a lengthened period; and, therefore, I feel that I am not entirely out of place in performing this service.

"For fifty years you have served the Royal Family of this country, with fidelity to them and honour to yourself—for fifty years you have occupied a prominent position in an arduous situation—one requiring the exercise of the greatest discretion, coupled with decision and courtesy. In that situation you have, doubtless, had to exercise much self-denial, and, while in the performance of your duty and your high trust, to give offence when you would rather have conveyed pleasure. For fifty years you have adorned the profession of horticulture, and assisted in no small degree in promoting and fostering its pursuit; and for far upwards of fifty years you have lived a life that has endeared you to many friends, and made you respected by all who know you; and it is for these reasons that we are now here to present to you these testimonials from your friends, whose names are inscribed on the accompanying roll.

"In the good providence of God you and Mrs. Ingram have been spared to live far beyond the allotted span, and it is our earnest wish, and that of all your friends, that you both may yet be long blessed with the enjoyment of each other's society, and to receive the hearty congratulations of all those who have the privilege of your acquaintance."

## OUT-DOOR FIGS RIPENING AUTUMN FRUIT.

As you are publishing some articles upon the cultivation of this fruit, let me add one little jotting as to the ripening of autumn Figs.

As a rule, it is doubtless true that of out-door Figs the spring crop alone ripens, the autumn Figs dropping off at the approach of winter; but in our Undercliff there are exceptions to this rule; and not only do autumn Figs remain on the trees during the winter, but sometimes they are ripened in the ensuing summer. I have repeatedly heard that this latter was the case; but on Monday, the 24th ult., I had positive proof, having, on that day, gathered and eaten from a tree in the open ground, grown freely, and without any particular cultivation, a full-sized, fully-ripened, and full-flavoured Fig—I believe a Brown Turkey—of as good quality, in all respects, as I have eaten Figs in Jersey at the end of August. This Fig, as well as others on the same tree, now approaching ripeness, was, of course, grown upon last year's wood. This tree is in the grounds of Dr. Leeson, at Banchurch. In all the books on fruit culture that I have seen, it has been assumed that autumn Figs (out-door ones) must necessarily fail; and as there is here a plain and distinct exception, I believe you will not think it troubling you unnecessarily to communicate the fact.—H., *St. Boniface Cottage, Centnor*.

## BEDDING GERANIUMS.

Our Cloth of Gold Geraniums are doing well, as usual, which we think in some measure due to very light soil—namely, as stated last year, a good supply of leaf mould or bog soil worked into the beds. We took all our old plants up last autumn, potted them with a mixture of fibrous peat, leaf mould, and sand. They stood in a pit amongst other kinds. We thought they were the strongest of any, as they made much growth before bedding-out time. By-the-by, I wish our nurserymen would not overwhelm us with bedding Geraniums. I have had hundreds of cuttings of Madame Vaucher to give away for four or five years past, and consider it too bad to be charged 3s. 6d. each for White Tom Thumb and Snowball, when no one can tell them from it. However, I obtained some good ones out of a batch that I bought, so I must be thankful. I would like every one to have Amy Hogg, Watson's Indian Yellow, and some others which I have bedded-out, and which are promising, but think it almost too early to report on them.—W. C.



## MINIATURE ORCHARD-HOUSE.

(Continued from page 73.)

My primary object in the erection of miniature orchard-houses on the plan I have described, being the production of early crops of Strawberries, and the protection of Pear blossoms from spring frosts, most of my ventilation experiments have been in these two directions. The plans I have followed will, when explained, give the key-note of the system, and enable variations suitable for Vines, Peaches, Tomatoes, or other crops, to be made.

With Strawberries, up to the time at which the flower-scape appears, I have hitherto, perhaps improperly, given no ventilation whatever; but after that period I have arranged the sheets of glass somewhat as in plan 1, which is a lazy way of work-

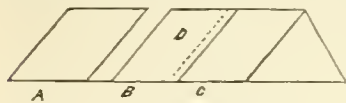


Plan 1.

ing, though suitable for Strawberries not wanted very early. For the two years I have tried it I seem to have lost nothing by frost. I have shown neither the ridge-wires nor the upright supports, but it will be seen that as there is an interval of an inch or two between each sheet, all the sheets on the first side erected require each two supports, instead of each alternate sheet being supported by its neighbours as in my description last week. The dotted lines represent the sheets of glass forming the other side of the house, and it will be seen that the interstices are placed *not* opposite those on the other side. This prevents too great a draught and distributes it when the wind blows. This is a plan contrived to save any alteration after once re-arranging the house when the blossom begins to show bud, and also as facilitating the gathering of the ripe fruit, which with Strawberries is a daily operation. This is done of course by shifting the sheets which overlap at the top, leaving the other side fixed as at first, till the end of the fruit season.

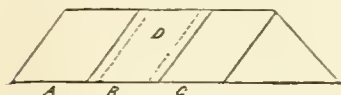
Watering in this and all other plans I have found best effected by the hydropult, with extra delivery hose, inserting the rose at the gables, or in very long houses through the interstices. A dry hearth-brush in dusty weather is of service in keeping the glass clear.

Plan 2 is a modification of plan 1, adapted to protect Pear



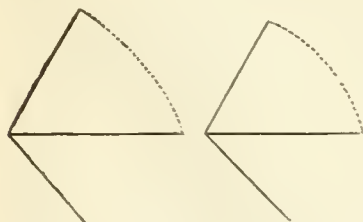
Plan 2.—Fig. 1.

driving an upright wire into the ground



Plan 2.—Fig. 2.

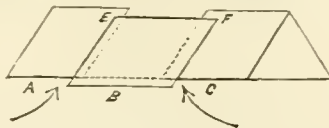
during the day as wide as may be desired.



revolve on their angle very readily, as in the accompanying diagram. In moving the ridge-wires *grasp them firmly*. I have broken glass and injured my fingers from incautious handling.

Plan 3 is very suitable for small houses of ridges not exceeding 24 inches. The ridge-wires opposite the sheet *b* must be inserted in the ground at such a distance from the straight line *A* to *c* as the ventilation required renders necessary. By drawing the bottom of sheet *b* outwards, the top of course gives

way and leaves a gap in the ridge between, the air entering below in the direction of the bent arrows. At night the sheet *b* is pushed up to its place closing up both top and bottom ventilation. The ridge-wires will hold the sheet *b* quite tight whether closed or open, even if inserted in the ground several



Plan 3.

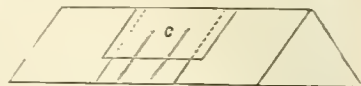


Plan 3.—Vertical section.

inches in front of the bottom of the sheet when closed. If the sheet exceed 24 inches either way, it will be necessary, or at least safer, to place two uprights behind the sheet *b*, as the points *E* and *F* are too slight for support without breakage. These uprights are so yielding that if properly placed they will not be in the way when the glass is closed.

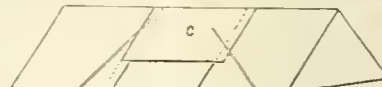
Plan 4 I would like to commend to very special attention and experiment. It

literally costs less than a house without ventilation. The double lines represent the ridge-wires, Fig. 1



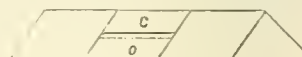
Plan 4.—Fig. 1.

is for permanent ventilation, as in Mr. Rivers's ground vineries. On experiment it is surprising how easily and firmly the small sheet of glass *c* is held in its place with the same ridge-wires that keep the others in position.



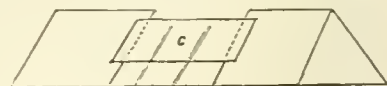
Plan 4.—Fig. 2.

The ventilation may be varied according to the size of the sheet *c*. Fig. 2 is the arrangement of wires I adopt so long as frost may be apprehended. The wires are so placed in order to allow a sheet of glass (*n* fig. 3) to rest (without any wire to fix it) against the opening below *c*. This shuts the house up almost as effectually as any other method I have tried, and a hundred sheets like *n* may be removed each morning and replaced each evening in "no time." During the day, as they do not much obstruct the light, they rest conveniently against the slope of the ridge near the opening they cover at night.



Plan 4.—Fig. 3.

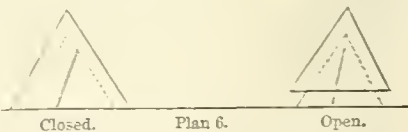
Plan 5 is a modification of plan 4, adapted for the ripening period and admitting of free ventilation both above and below the sheet *c*, which may be elevated or depressed as more or less free



Plan 5.

escape at the top is desired. The double lines represent the ridge-wires which, unless the sheet *c* be very narrow, answer very well as placed in the engraving.

Plan 6 is for gables only, and answers very well as the only ventilation given short houses of a few feet for propagating, or forwarding annuals, Radishes, &c., before their out-door season. The gable by proper arrangement may be raised or lowered without slipping the wire, by simply holding the wire with the one hand and moving the glass with the other.

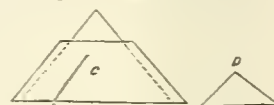


Closed.

Plan 6.

Open.

Plan 7 is for the ends of Pear tree miniature orchard-houses. During frosty weather the sheet *c* should be gently pulled back each evening and the triangle *n* inserted between it and the other glasses. The pressure is sufficient to retain it in its place. It might be

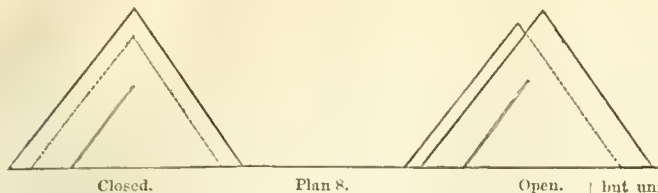


Plan 7.



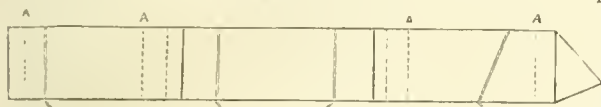
advisable to adopt this plan for all large gables, as there is thereby a great saving in being enabled to cut large gables out of small sheets.

Plan 8 is another, but not so good plan for gable ventilation.



Plan 9, for gable ventilation, is accomplished by inserting a rod of wood or iron between the gable and the glasses behind it at such height as will leave the size of aperture required.

Plan 10 includes several modifications for lean-to houses, which I need not particularise. I shall need a few months' further experiment before I can speak of lean-to miniature orchard-houses as a success. I have tried low brick walls without mortar and this year glass walls with metallic surfaces as reflectors. The glass walls are nearly perpendicular. In the following en-



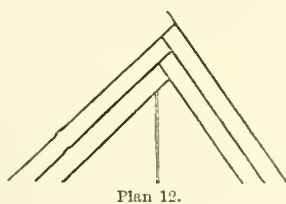
Plan 10.—Back of a Lean-to.

graving of the back of one, the lines A A are uprights, the double lines are wires after the manner of the gable wires. Most of my other plans I have rejected for some of the foregoing. Throughout the whole of the twelve months in a well-regulated garden there need not be a sheet of glass out of use except for a day or two. I find it will be convenient to have racks of galvanised iron fitted up at different parts of the garden to save trouble in carrying large sheets. After the Strawberries ripened this season I used the glasses for Cucumbers and Tomatoes,

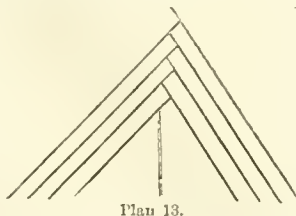
as well as Cherries about to ripen. In the latter part of the year, more especially in a wet September, they may be used to cover choice Strawberry-beds and secure well-ripened bnds. I shall, however, this year experiment at that time mainly on late Apples and Pears, but my way of treating these is too outrageous a violation of natural laws for me to say anything of it at present, so let it rest.

In spring, spare glasses answer admirably for double-glazed miniature orchard-houses for Apricots and Peaches, somewhat after this fashion (a vertical section), the double line being an upright. (See Plan 11.)

The interval will not be quite air-tight, but will at all events exclude a few additional degrees of frost. To carry the idea even farther, as there is little use for many ridge-wires, except on the outside of all, excellent protecting-houses for bedding-out and other tender plants may be very readily formed, thus, (Plan 12, or even as in Plan 13.)



Plan 12.



Plan 13.

If the last one does not keep out the frost I must give it up, and though I do not on the instant see my way to an effective ventilation for these and the Apricot-houses, I feel sure that half an hour's thinking will resolve the problem. Should the subject be thought worth experiment I shall be glad from my two-seasons experience to reply on any point wanting further elucidation, but my hope is that if I have struck a useful chord I may hear of useful applications and improvements effected beyond anything my short gardening experience can evolve.—Wm. McGOWAN.

ERRATUM.—From a transposition of the sheets of the copy the article at page 72 in our last Number has been rendered all but unintelligible. On reaching the close of the sentence terminating with "to a and n" in column 1, on the ninth line from the bottom, the reader must pass on to the paragraph in the middle of column 2, commencing with "At each of the points," and on reaching the close of the paragraph in column 1 page 73, terminating with "of the dotted line x," he must turn back to the sentence near the foot of page 72 column 1, beginning with "Fix a wire, &c."

## HOW TO GROW VARIEGATED GERANIUMS.

MANY persons say they cannot grow some of the new and very beautiful Geraniums, such as Mrs. Pollock and Sunset. Thinking it a great pity that these beautiful plants should not become common, I will give my experience in the hope that it may be of assistance to some who have not succeeded so well as they wished.

We have always a heap of rich soil prepared in the following manner:—A foot of good sandy loam covered by a foot of good stable-manure, again covered with soil, and again by manure, and so on till the heap is finished. The heap is turned several times during twelve months, and always comes in useful whenever soil is required for potting. Having removed the soil of the bed intended to be planted with Variegated Geraniums a good spade's depth, an equal quantity of compost was prepared by mixing a little white sand and cocoa-nut fibre with the soil of the heap before mentioned, and with this the bed was filled. A variety of Geraniums, amongst which are a good number of Mrs. Pollock and Sunset, are growing in this bed almost as freely as Tom Thumb. Some few older varieties, planted with them for contrast, are twice as effective as those planted on common soil. It appears as if a rich open soil is what these new Geraniums require. Perhaps those who have tried cocoa-nut fibre, and been dissatisfied with it, have forgotten that its effect is merely mechanical, and if added to a poor soil, it of course makes it still poorer. My bed is so beautiful I feel quite proud of it, and seeing what can be done with these new Geraniums, am anxious others should grow them successfully.—J. R. PEARSON, *Chilwell, Notts.*

## POTATO SCAB.

I HAVE grown a large number of unusually fine Ashleaf Kidneys on some new ground this season. The tubers are very large, and excellent when cooked, but they are so scabby as to be quite disagreeable to look at when dug. My gardener tells me it is caused by the little thread worms which abound in the soil, owing to its having been manured with some rotten stuff from an old Cucumber-frame. I should be very glad to know the real cause of this scab, which is, as you say, only skin deep.—T. C. H.

I QUITE agree with the Editors in their answer to the query of "J. W." as regards lime causing the scab in Potatoes. Some years ago, in the vale of the Humber, we had very fine Potatoes manured with farmyard dung, and generally free from scab. Leading into our fields was a long lane always repaired with limestone, the scrapings from which one winter were spread over about an acre and a half, and ploughed in; the following season was rather dry, and the Regents and other rough-skinned kinds were scabbed very much, but we thought they were no worse in quality, and not much less than usual. The Kidneys and other smooth kinds were very little scabbed. We thought, but might be wrong, that the lime passed into the rough parts of the skin and caused the eruption. I would advise "J. W." to obtain a change of seed from a distance, and from a different soil from his own, to manure moderately with farmyard dung, and perhaps a little guano, but to use no ashes nor lime.—W. C.



## CLIMBING DEVONIENSIS ROSE.

Mr. Rivers states, "This was originated from budding a strong-growing shoot, what is called a 'sport,' and thus continuing the inclination to a vigorous habit. Such sports are not uncommon with Roses; the climbing Géant des Batailles, and the climbing Aimée Vibert, are Roses in point. The climbing Devoniensis reverts to its normal condition if buds or cuttings are taken from the blooming shoots. The specimen sent to the Floral Committee of the 25th of July would, if not confined in so small a pot, have doubtless put forth blossoming-spurs from its stem, as is the case with plants in the open ground. The extraordinary vigour of the specimen exhibited was probably owing to its culture. It is double-budded, after the flowering method. A strong-growing Hybrid China Rose, Madame Pisaroni, was budded on the Manetti Rose stock, and the following August a bud of the climbing Devoniensis was budded on the young shoot of Madame Pisaroni. This method of culture gives most remarkable vigour to Tea-scented Roses, the Rose Gloire de Dijon making shoots from the buds thus inserted of from 8 to 10 feet in length. It is also highly successful with delicate-growing varieties of Hybrid Perpetuals." Rose-growers will have much cause to thank Mr. Rivers for his valuable remarks on this subject.—X.

## EARLY PEAS.

HAVING heard a good deal in favour of Messrs. F. & A. Dickson & Son's First and Best Pea, I purchased some of the seed, in order to give it a trial and prove its merits, and I now give the results of my experience. I have been in the habit of growing for my first crop Dillistone's Early, Daniel O'Rourke, and Sangster's No. 1, but having this year added to my list Dickson's First and Best, I am happy to say that I have not been disappointed with the high character I had with it.

I selected an open and early quarter in the kitchen garden, which had been previously trenched, and was in capital heart. The soil is a good, deep, and rather stiff loam, the very soil to withstand the great droughts which we have experienced for the last two seasons, and which, in my opinion, greatly affects success in growing the Pea. The four varieties named above were sown on the 3rd of February in rows about 6 yards apart, so that they would have the benefit of the sun on either side. I grow all my Peas in single rows; I always think they crop better, and I fancy that it is a saving of ground, as you only lose a row of the crop growing between. I gathered the first dish from Dickson's First and Best on the 30th of May, and from Dillistone's Early on the 1st of June. Daniel O'Rourke and Sangster's No. 1 were a few days later. Dickson's First and Best is not only a better cropper, but continues much longer in bearing, is very superior in quality, and is in every respect a very valuable early Pea—indeed, the earliest with which I am acquainted. I have made up my mind to grow for my first crop no other Peas than Dickson's First and Best, and Sangster's No. 1, and for succession Dickson's Early Favourite, Veitch's Perfection, Lord Raglan, and Hairs' Dwarf Mammoth.

To grow the Pea successfully you must trench deeply, manure well, and have the ground in good order before sowing; for no crop suffers more than the Pea from a long continuance of dry weather, and in doing as I have described, it will be found that the trouble will be well repaid by the increased production.—W. DAVIDSON, *The Gardens, Benington, Leominster.*

My belief is, that the seasons exercise a great influence on the earliness of Peas, as in the case of fruit and flowers. Some of your correspondents assume that Dickson's is in reality the earliest and best Pea, but how can they fairly make such an assumption, when we find that two or three other early sorts have not been put to the test? My experience proves that their conclusions are rather premature, inasmuch as Carter's First Crop produced me Peas on Saturday, the 3rd of June, in the open ground, and under no peculiar advantages. I would further assert, that had I been living on the spot instead of in London, Peas might have been gathered at least three or four days earlier than I received them, and, furthermore, a neighbour of mine, expecting great results from his Pea—Dickson's First and Best, made careful observations, and on comparing his with mine (Carter's First Crop), it was proved that his Pea was more backward, and the pods much smaller. I, therefore, do not admit that Dickson's First and Best has proved itself

worthy of that cognomen, and from what I have read, and my own experience, I should certainly give preference to Carter's First Crop.—JOSIAH LOVELL, *Overton, Hants.*

My experience is confined to three varieties only (as early ones) which I have grown here—namely, Dickson's First and Best, Dillistone's, and Sangster's No. 1. All were sown on the same day on a border due south. Dickson's First and Best came into bloom ten days before the last-named varieties, which bloomed together, and kept the lead, giving me a crop in every way satisfactory, fully ten days earlier than either of the others. For the future I intend growing Dickson's First and Best as a principal first crop, as I find it here does admirably.—J. GARDNER, *The Gardens, Little Aston Hall, Sutton Coldfield.*

[We have inserted the above and other communications respecting early Peas in order that the opinions and practice of correspondents in different parts of the country might be made known; but on reference to the report of the meeting of the Royal Horticultural Society it will be found that three of the so-called new Peas are not distinct from Dillistone's Early Prolific, and that that kind is nothing but a pure stock of the Early Kent. This, the result of careful trial, is confirmatory of the conclusions arrived at by Messrs. A. Henderson, and stated by them at page 467 of our last Volume.]

## MR. PERRY'S SEEDLING VERBENAS.

MR. C. J. PERRY is now well known as the raiser of some of the finest Verbenas yet sent out, all of which have been introduced by Mr. C. Turner, of Slough. Taking advantage of my visit to the great Rose Show at Birmingham, I visited Mr. Perry's garden at Castle Bromwich to see what seedling Verbenas he had for next year, and I am sure the following will be hailed as great acquisitions, but of course they will not be sent out until next spring.

*Charles Perry.*—This is an improvement on Charles Turner, and a decided improvement on L'Avenir de Ballant and any others of the same class. Very fine pip and truss.

*Cleopatra.*—Rich deep rose, with clear lemon eye, beating Rosy Morn and all of that class. Very fine truss.

*Maceppa.*—A decided improvement on Lord Leigh and all of that class, having a white instead of a yellow eye, and very fine pip and truss.

*William Dean.*—A great improvement on Black Prince, Lord Elgin, and others. Very rich shaded purple, with clear white eye; fine truss.

*Harry Turner.*—Shaded lilac; very fine pip and truss. An improvement on Magnificens.

*Mrs. Dean.*—Blush, with pale crimson centre, the centre being more clearly defined than Madame Herman Stenger. Fine pip and good truss.

*Admiral of the Blue.*—Distinct lilac blue, with large white centre. A great improvement on all of this colour.

*James Walton.*—Bright rosy carmine, with darker shade towards the centre; light eye. Very fine pip and truss.—W. D.

## WORK FOR THE WEEK.

## KITCHEN GARDEN.

AFTER the first shower of rain earth-up Brussels Sprouts, Savoys, Broccoli, and whatever requires it. Keep the ground free from weeds, remove the crops that are done with, and prepare it for winter crops. We strongly recommend mulchings to be applied between the rows of vegetables; for wherever the ground is at all stiff and exposed at this season to the powerful action of the sun, it is apt to crack or rend in several directions, by which the roots of vegetables are, in very many instances, destroyed. Broccoli, any now planted out should have the roots dipped in puddle of soot, earth, and water, and immediately after planting should be again watered. The Cape and Grange's intended for use in the autumn should also be watered. Cabbage, the principal sowing for spring use should now be made, if not already done; Barnes' Early Dwarf and the Vanack are the best sorts for private gardeners. Carrots, some of the Horn may now be sown to stand the winter, but another sowing should also be made towards the end of the month. Celery, abundance of water should be given to that newly planted, and also to the earliest crop, which, if watered early, should be earthed up. Continue to plant out, observing to take up the plants with as much soil about their

roots as possible. *Lettuce*, make a sowing of Cos and Cabbage for late use. *Onions*, a few may now be sown to draw young for winter use, or to stand the winter for transplanting in the spring. *Turnips*, as ground becomes vacant another sowing may be made; if the weather continue dry water the ground after the seed is sown, and cover with mats.

#### FRUIT GARDEN.

Water trees not fully established if the weather is very dry. Remove badly placed or crowded shoots. Take suckers and weak shoots from Currants and Gooseberries; cuttings of half-ripened wood strike readily in a shady place. Remove suckers and weak laterals from Figs. Water Peaches and Nectarines freely in dry weather, thin the leaves, and cut out all coarse growth. Thin weak Raspberry suckers, leaving only the number wanted; stake them clear of the bearing rods. Keep Vines free from useless wood, and allow plenty of air to the fruit, but do not expose it too much.

#### FLOWER GARDEN.

The rockery, a valuable adjunct to the flower garden, should now have a thorough cleaning, clear away all decayed flower-stems and dead leaves. A few stones had better be placed in front of the tender-rooted species to afford a little shade and protection from the powerful rays of the sun. Half-hardy plants put out here in June should have their shoots spread out and pegged down. Nail the shoots of Fuchsias and Petunias to old stumps or roots that may have been introduced among the rockwork. Managed in this way they produce a gay and pleasing effect during the autumn months. Top-dress Auriculas. Layer Carnations and Picotees. This is performed by cutting through the second or third joint, bringing the knife about half an inch up the centre of the shoot, making "a tongue," the small portion of stem beyond the joint is cut back to it, and when pegged down in the soil, which should be fine and light, it will soon emit roots. The Dahlias to be looked over, and if any of the ties are too tight for the shoots, to be removed and retied. The old-fashioned plan of placing small pots, with a little moss in the bottom, on the top of stakes to trap earwigs, should not be forgotten. Seedling Pansies put out now in a moist rich soil in a shady situation will flower freely. The seed-pods on the old plants to be gathered as they ripen, and dried in a shady place; seed only to be saved from flowers of good form and stout petals. Holly-hock seed to be sown in an open border, and the stock increased by cuttings.

#### GREENHOUSE AND CONSERVATORY.

This is generally a critical month with greenhouse plants out of doors. The heat is sometimes so great as to produce the tropical winter of vegetation, when the parching heat of the sun acts upon and produces in some degree a dormancy in the system of plants; and at other times when occasional showers fall, and we see the surface of the soil in the pots moist, we are satisfied until the drooping or withering foliage shows our neglect, and perhaps with Heaths, New Holland, and similar plants it is noticed when too late to save them. The ill-effects may be avoided by plunging the pots in coal ashes, and by syringing the plants overhead of an evening, and, when doubtful of the ball being moist, by gently turning one or two plants out of their pots to see the state of the ball, as it requires some experience to distinguish whether a plant wants water or not from the ring produced by rapping the knuckles against the side of the pot. Azaleas and Camellias that have done growing may be placed out in a dry airy place to rest and harden their wood. Calceolarias and Cinerarias should be shifted as they require, and kept cool. Pelargoniums that were cut down some time since, and have been standing dry, should be shaken out of the soil, their roots trimmed, potted in small pots in sandy loam, kept close for a week or so, and watered sparingly. Polygala and other such hardwooded plants which have done blooming to be pruned pretty closely, and placed in a cool situation to start again. The conservatory will now be gay with Balsams, Globe Amaranths, Fuchsias, Pelargoniums, Cockscombs, Thunbergias, Japan Lilies of sorts, and the creepers on the rafters and trellises arranged in festoons or in any other manner to give a pleasing effect to the whole. Grow on the late Achimenes, Gesneras, &c., freely. Keep the succulents exposed to light, with plenty of heat and air, but gradually reduce the supply of moisture, so as to get the growth firm and ripe. Leave plenty of air all night to the greenhouse; all houses should be freely ventilated, especially early in the day. Regularly train, water, and syringe window plants, and protect the pots from the scorching rays of the sun.

#### PITS AND FRAMES.

All the cuttings of Geraniums that can now be obtained should be put in, they will make fine strong plants for keeping over the winter. They will succeed very well in a bed of light soil in the open ground, but we prefer to strike them in good light soil in a frame, where they can be protected from heavy falls of rain or thunder showers. Sow Chinese Primrose seed in light free soil, and place in a pit or frame; water sparingly. Propagate largely from those half-hardy plants which cannot be quickly struck in the spring. Sow Mignonette and a few showy annuals for decorating the conservatory during the autumn and winter.—W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

NEVER had warmer weather, and the showers did good to everything, except some of the most forward grain. Everything promises a good harvest time. Went through most of our kitchen garden where we could use the Dutch hoe, as where no weeds were to be seen a short time ago, these appeared to be coming up in myriads. When cut up young a few hours of bright sun will thoroughly settle them. This refers even to such succulents as Groundsel, Sow Thistle, &c., and such had root weeds as Dandelions and Convolvulus. Cut the latter often enough, and the roots will die. Of course, it is more effectual to get the roots up, but then the labour! A good plan with Dandelions on carriage roads, walks, &c., is to cut the root below the surface as deep as possible, and then put a pinch of salt on the top of the root. The drier the weather is afterwards the better, and the more destructively the salt will act, as it is absorbed more gradually into the system of the root. Groundsel and things of that kind in bloom, and seeding commenced, it is of no use to cut and leave, as the juice in the stems will be sufficient to ripen the seeds, unless the sun is very scorching. Such should be pulled up by hand, placed in a basket, and safely transferred to quarters where they cannot seed, or do injury. The best plan, however, if we could always do it in time, is to cut up all weeds before they are an inch high. The necessity of pulling makes weeding a nice process only when a gardener does not know what to set his men to. There may be a few such places, but the generality of us have to rack our brains as to what must be done first, and to contrive that no second step shall be taken by a man, where one can be made to do. The Dutch hoe in time is the great weed-eradicator.

Well-kept walks must be weeded, but many walks when very green may be hoed, raked several times, and then levelled and rolled with advantage. Salt is the most ready agent for cleaning walks, but then if the walks are fine on the surface, it will make them soft and damp in winter, so that weeding after all is the best plan; but after such warm rains the labour is apt to be excessive. With walks and borders clean and in good order the garden will always have a neat appearance. Care must be exercised in such dripping weather that men do not walk from quarters on to walks with shoes uncleaned or hanging with mud and soft earth. No walks can be tidy under such treatment.

We lately alluded to a neglected garden so overrun with Groundsel that it would have been a little fortune to those who sell green food for "dickie" birds in London. We passed it lately again, and there were second and third crops seeding, old and younger plants, forming a dense carpet. One year's neglect will, we are confident, give pretty good work for twenty or thirty years to come. The seed of the Groundsel is very tenacious of life, but it will vegetate only when brought near the surface in contact with air. In fact, it never seeds more freely than when it is permitted to sow itself on the surface. Every fresh digging for many years will bring a number of these hardy seeds near enough the surface to vegetate, and when these are early destroyed, the garden may be pretty free for that season; but the fresh digging of the next year brings another lot of seeds nearer the surface, and another carpet of weeds, and then having seen no plants seeding, some friends just beginning to thread the enticing labyrinths of science, take up all sorts of notions about spontaneous generations, and other wild ideas of what can be accomplished in forming organised existence out of peculiar combinations of matter. True, in the Groundsel, the Thistle, and the Dandelion, seeds can be wafted to great distances by their downy wing-like appendages. Two years ago in a windy day, we were enveloped by a clothing of Thistle down, and found no Thistles nearer than a mile, where they formed a perfect *chevaux de frise* in a hedgerow. Making



all such allowances, there can be no question that the seeds of such plants as Groundsel dug down into the ground, retain their vitality for a long period, and will vegetate whenever they are placed in suitable conditions, especially as to air, as most other conditions the earth freely supplies to them.

In connection with this subject, we lately met with a striking example of the tardiness with which in general we prosecute any pursuit closely allied to that which engrosses our attention as a matter of business. In walking through the fields of a young scientific farmer, and admiring his fine crops of Barley a little laid by the rains, Oats, and Wheat with splendid heads, and Swedish Turnips pretty well covering the ground, Mangold with the leaves meeting, and all so nicely hoed and cleaned that we failed to find a single weed even an inch in height;—we observed a wonderful contrast when we entered the garden and found Cabbages, Strawberries, &c., almost concealed by masses of seedling Groundsel and Sow Thistle. Our young friend agreed with us that the vegetable garden was too near akin to field culture to exercise much of a fascinating interest over him, and hence the neglect. It brought to our mind a rule in some country societies as to *cottagers' prizes*, by which those who work as labourers in a garden are excluded from competing with those engaged in other handicraft operations. We have always looked on the propriety of such a rule as doubtful. True, the garden labourer has some advantages; but then there is the great counterbalancing disadvantage, that working for himself of an evening in his garden presents nothing to him of the charms of change and variety. It is the same thing from morning to night, and he can feel little of that buoyancy that the tailor, the shoemaker, the carpenter, and bricklayer experience in their gardens of an evening merely from the change of occupation. If we are physically tired we feel a sort of pleasure in writing these notes of an evening, when a couple of hours at the hoe or the spade would be irksome and wearing-out. Hence the proverbs about the slovenliness of the good farmer's garden, the bad state of the shoes of the shoemaker's wife and of the blacksmith's nag. There are reason and nature for the foundation of the proverbs, from the simple fact that we work most heartily for ourselves when the work is most different from that by which we gain a livelihood. Hence our best florists have generally been men engaged during the day in sedentary pursuits. Hence in villages the best gardens more frequently belong to shoemakers, blacksmiths, and other tradesmen and mechanics than to garden and farm labourers. Hence, too, in farmers' gardens you will generally find, that if enthusiastic in gardening at all, it is the flowers and fruit, and not the vegetable, with which the farmer troubles himself. Of course there are exceptions. Many farm and garden labourers have gardens of their own worthy of all commendation, and farmers' gardens are frequently to be met with models of neatness and of good culture. In the latter case, however, the result is often less owing to the zeal of the farmer than to the energy and determination of his partner in life, who, if a prudent woman, will generally gain her purpose, though there may be a little grumbling about labourers going too often to the garden, and too frequently to the dunghill; but the good man of the house never turns his head away from a dish of green Peas or a plate of Strawberries.

We allude to the matter thus prominently because, though believing that gardens have a good influence on garden and farm labourers, we also believe that they have still a greater and more elevating effect on mechanics, artisans, and other labourers, on the simple principle that every human being has a longing for variety, and that, as a general rule, that change is most pleasing that is farthest removed from our usual daily avocations.

Kept removing first Peas, staking late ones, planting out more Celery, also Coleworts, Cauliflowers, Lettuces, and Endive, and planted about eight days ago a lot of Potatoes in our bedding earth-pits, to come in late for very early Potatoes for those who may like them. All these things fresh planted wanted a good watering in this warm weather, in addition to the warm showers.

Here we may note a particular fact with respect to the *wireworm*. In an earth-pit or bed that had grown well temporarily lots of Calceolarias, Geraniums, &c., we planted a lot of Lettuces, &c. In the neighbouring bed nothing could have answered better, but in this bed more than half the plants were eaten up by wireworm. In the roots and underground stems of some Lettuces we found fully half a dozen of these hard-skinned insects. How came they there? might be a moot question, as we noticed not a single specimen in lifting the Cal-

ceolarias. We have found baits of Potatoes, Turnips, or even leaves of vegetables of no use in the present case, as the Lettuce stems and roots proved the most enticing. They, however, formed good baits, and every unhealthy or dying one being examined, the place could soon be cleared of them. "Catch and kill," is the best remedy. Tar water, and tar itself sprinkled on the soil may make it unpleasant for them, but it will not kill them. We recollect reading in some old book that the wireworm was the larvæ state of *Elatér obscurus*, and that it generally remained in the larva state for five years. Would that some one learned in these matters would give us the whole history of the wireworm. In some popular works it is not even mentioned. We once kept wireworms in a box of earth for three years and a half, giving them roots of vegetables to feed on, and there was no change in them in that time. By an accident the experiment was ended, the box being cleared out when we were absent.

Sent some boys with a branch in their hands in pursuit of white butterflies, that have come in a cloud since the warm rains. If not struck down, every time they alight and rest on Cabbages and Cauliflower they will deposit eggs that will soon be hatched into hungry caterpillars. Dusting vegetables with soot and lime will keep them from inserting their eggs in them, but the dusting will be almost as disagreeable as the caterpillar. A clever boy that takes the matter easily—that is, does not become flurried, will soon knock down a hundred of such gay visitants. But for the shoals of caterpillars that succeed them, the butterflies would be ornamental in the garden rather than otherwise.

*Deodorising sewage.*—More than a twelvemonth ago a little box of whitish brown powder was sent to us from the office of THE JOURNAL OF HORTICULTURE, with a request to try it. Ignorantly we supposed it was a kind of manure, and tried it on Strawberries, Vines, and various vegetables, but found the effect was *nil*, the application producing no result beyond that of common water. Some time ago we saw the same powder, we suspect, alluded to by our valuable coadjutor, "UPWARDS AND ONWARDS," and the benefit he derived from it in deodorising sewage water. We tried what little we had left in the same way, and found it very effectual, even in small quantities, in removing unpleasant smells. Even now we do not know what the powder is named, or who is the manufacturer, or who sent it to the office. We have no doubt that many would be glad to put a little in their cesspools, house sewage, &c., before using the liquids on their gardens. We fully believe that porous earth will soon deodorise all liquids committed to its care; but all of us have not noses so suited to ammonia, &c., as those who are nearly constantly employed in throwing up and working dunghills, and to some of us the application even of sewage water is distressing before the smell goes off. On this account nothing but the great drought of last season would have reconciled us to using such sewage to flower-beds near a mansion, or to plants, or fruit-pots under glass. In many cases we would decidedly prefer the sewage to pond or river water, if the scent were removed before using. The smell is apt to make some men ill, and it would be advantageous every way if the odour were removed by throwing a little of the powder into the reservoir. Something of this kind would be simpler and safer than trusting to acids, gypsum, &c. If some such powder easily applied, and cheap withal, cannot be applied, most of us, notwithstanding our knowledge, will go on applying sewage and dunghill drainings in their unpleasant natural condition.

#### FRUIT GARDEN.

Went on with Strawberry plants as detailed last week. Gathered most of the small fruit needed for preserving, the birds after all having left us a pretty good share, for which we should thank them, if we thought our thanks would reach them and make them better-behaved in future. We fear their moral sense of *meum and tuum*, would scarcely be so fine as that of a man, who was the terror of all the gardens in the neighbourhood. One morning a quaint old gentleman met him, thanked him for taking only a portion of his Apples and Plums, and said very good-naturedly, that whenever he wanted any more, he would have no more to do than ask for them as long as they lasted. This quite took the man by storm, he could have stood any amount of scolding and browbeating, for he was used to it, but the words of kindness went home, and from that day he turned his naturally good abilities into the laudable pursuits of honest industry. We fear our feathered friends would not be quite so amenable to kindness, and their troubling us less may be owing to the warm showers bringing snails and worms to the surface. In the dry weather it was pitiable to see the



blackbirds and thrushes reduced to skeletons. However, they have had more of their own way, as for several seasons this season we have fired no shots at them, but instead sent a boy with good lungs and a rattle among the bushes, to keep them moderate in their meals, and, perhaps, the absence of the gun has made them more moderate, from a principle of gratitude.

Unless very secure, netting is no avail, the birds will actually from mere curiosity find their way under the netting to see what is there. We have had ample proof this season, that the tomtit is a great enemy to buds in the spring, he is a great insect-devourer all the rest of the season. He is pretty well as active now in nipping up insects from bushes and trees, as the swallows are in their way among the flies in our atmosphere.

Went over the trees on walls and orchard-houses, thinning later fruit, which after all we constantly manage to leave too thick. Some time ago we grumbled that a few trees on the back wall of an orchard-house did not set thick enough to please us, but the trees acted more wisely than we would have advised them to do, as we have had to thin considerably what we thought would be a thin crop. Went over the ripening Peaches, removing shading leaves, shortening laterals, and seeing if the fruit had full room to swell. It is very annoying when a fine fruit is mature, to find that one side is marked or cut into by ligature, wire, or wood trellis.

Trees from which all the fruit was gathered, we syringed forcibly with soap water and clear water alternately, and gave the driest a good watering. Gave also a good watering to Peaches swelling freely. Too much water whenever they begin to ripen spoils the flavour, but they need a good watering in general at the second swelling, to give plumpness and size.

Thinned the shoots of Fig trees in low house, and in pots, and gave plenty of water and air to those ripening freely. None but a Fig-grower can have the satisfaction of eating ripe Figs in perfection, as when at their best it is next to impossible to pack them so as to take them safely for long distances. Plenty of air is necessary to prevent them cracking prematurely, and in dull, moist, muggy weather, a little fire heat is useful to prevent them ripening on one side before they become soft on the other. Plants in pots must never now be dry, and they must never be water-logged. In very bright days, such tender-skinned ones as the best White Marseilles are all the better of the slightest shade.

Looked after a few damped berries among Grapes, and gave a little fire heat to the late house, shutting it up early. A little extra heat now will do more good than in September or October. Melons have been all that could be wished in such bright weather. Without sun and at all shaded much under glass, they are apt to be little better than large ripe Cucumbers. We presume that in such matters people change, but we find once regular Melon-eaters at all meals of the day now scarcely touch them at any time. Several gardeners have lately told us that they have given up growing them, as they were never used. The glass in many places could well be used for other purposes. It often happens, however, that fruit and vegetables neglected for a time are again taken into favour, and we cannot produce too much of them. We notice to-day, that a heavy crop of Apricots, swelling freely, are being marked already on the most forward parts, which marking we attribute to ants and earwigs, both of which are more numerous than usual this season. We shall take an early opportunity of lashing the trees and fruit with clear lime and soot water, which is not liked by these pests, so as to bring them to the ground, and then we shall paint the wall at the bottom with a mixture of tar, grease, and oil, the latter ingredients preventing the tar drying, and, therefore, keeping the intruders from passing over. A small space as to width would do—say three-fourths of an inch. The syringing is essential, as what insects are left on the trees will be apt to remain there.

#### ORNAMENTAL DEPARTMENT.

Potting, staking, mowing, regulating, much the same as last week. The heavy rains have rendered it necessary to remove many leaves of Scarlet Geraniums from the flower-beds, to give more room and light to the flower-trusses. Picking decayed flowers gave also more occupation than we wanted. In fine settled weather this is less needed, as the flowers decay, and the receptacle drops off and is lost sight of; but in such warm weather with frequent heavy rains, if there are a few decayed blooms in a large truss the rains wash the colour out, and spoil the rest of the truss and other trusses near it. Borderings of Nasturtiums have been freely disleafed. Hollyhocks have been secured by taking stout string from stake to stake—say 6 feet apart, and then the individual stems were secured to the string,

Rows of Gladiolus were secured in the same way, which is a much neater and more economical plan than a more general staking. Rows of Ageratum, Purple Verbenas, &c., in borders, were secured in their places by very small string or thread, strained between stout little sticks, neither sticks nor string being seen a few days after being used.—R. F.

#### COVENT GARDEN MARKET.—JULY 29.

SUPPLIES of most descriptions of fruit and vegetables are very heavy. Peaches and Nectarines are not so plentiful, but quite sufficient for the demand. English Pines realise very low prices, large importations of West Indian Pines continuing. Currants are good, and in great request; Strawberries are not yet over, some good Eltons being still to be had. Spinach chiefly consists of the New Zealand, or *Tetragonia expansa*, which is found very useful. The best Peas at present at market are the No Plus Ultra and Champion of England.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.				
Apples.....	½	sieve	1	0 to 2	Melons.....	each	2	0 to 6	0				
Apricots.....	doz.		1	0	3	0	Mulberries.....	punct	0	6	1	0	
Cherries.....	lb.		0	6	1	6	Nectarines.....	doz.	10	0	15	0	
Chestnuts.....	bush.		0	0	0	0	Oranges.....	100	10	0	20	0	
Currants, Red ½	sieve		3	0	4	0	Peaches.....	doz.	10	0	20	0	
Black.....	do.		4	0	5	0	Pears (kitchen).....	doz.	0	0	0	0	
Figs.....	doz.		4	0	8	0	dessert.....	doz.	1	0	2	0	
Filberts.....	lb.		0	9	1	0	Pine Apples.....	lb.	3	0	6	0	
Gobs.....	do.		0	0	0	0	Plums.....	½	sieve	2	6	4	0
Gooseberries.....	½	sieve	2	0	3	0	Quinces.....	½	sieve	0	0	0	0
Grapes, Hambro.....	lb.		2	0	5	0	Raspberries.....	lb.	0	6	0	0	
Muscats.....	lb.		3	0	6	0	Strawberries.....	lb.	0	6	2	0	
Lemons.....	100		8	0	14	0	Walnuts.....	bush	14	0	20	0	

#### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	each	0	4 to 0	6	Leeks.....	bunch	0	3 to 0	6
Asparagus.....	bundle	0	0	0	Lettuce.....	per score	0	9	1
Beans Broad.....	bushel	3	0	5	Mushrooms.....	per bottle	2	0	3
Kidney.....	do.	3	0	5	Mustd. & Cress, punnet	0	2	0	0
Beet, Red.....	doz.	2	0	3	Onions.....	doz. bunches	5	0	0
Broccoli.....	bundle	0	0	0	pickling.....	quart	0	6	0
Brus. Sprouts.....	½ sieve	0	0	0	Parsley.....	½ sieve	1	0	1
Cabbage.....	doz.	0	9	1	Parsnips.....	doz.	1	0	2
Capsicums.....	100	0	0	0	Peas.....	quart	0	9	1
Carrots.....	bunch	0	4	0	Potatoes.....	bushel	2	6	4
Cauliflower.....	doz.	3	0	6	New.....	bushel	3	0	4
Celery.....	bundle	2	0	3	Radishes doz. bunches	0	6	1	0
Cucumbers.....	each	0	6	1	Rhubarb.....	bundle	0	2	0
pickling.....	doz.	2	0	4	Savoy.....	doz.	0	0	0
Eradie.....	score	2	0	3	Sea-kale.....	basket	0	0	0
Fennel.....	bunch	0	3	0	Spinach.....	bushel	4	0	5
Garlic and Shallots, lb.		0	8	0	Tomatoes.....	doz.	2	0	3
Herbs.....	bunch	0	3	0	Turnips.....	bunch	0	4	0
Horseradish.....	bundle	2	6	4	Vegetable Marrows dz.	1	0	2	0

#### TO CORRESPONDENTS.

\*. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

PEACHES AND NECTARINES FRUITING ON SPURS (*An Old Subscriber*).—Peaches and Nectarines do not generally produce fruit on spurs, in consequence of their being disbudded to a single shoot to replace that producing fruit during the current season, and the formation of spurs is therefore prevented. They bear fruit on spurs, commonly on the Plum stock when disbudding is confined to removing the shoots not wanted for extension, and those which would crowd the trees if allowed to remain stopping the shoots taking the place of general disbudding, the side shoots being close-pinched throughout, in the first instance to three and at the most five joints, and ever afterwards that season at the next joint. On the Peach stock the trees are as much given to produce their fruit on spurs as when on the Mussel Plum, if not more so; the main cause of their bearing on shoots of the previous year is their being made to do so by an excessive use of the pruning-knife. We apprehend there will be less unfruitful trees when all pruning of fruiting trees or of an age fit for bearing is confined to summer pruning.

ANTS ON WALL TREES (*Idem*).—Smear the inside of a flower-pot with honey, and place it near the ants' nests and haunts, and when crowded with them put pot and all in boiling water. The most effectual remedy, however, is to mix arsenic with honey in equal parts, place in a saucer with two thin sticks across, inverting another saucer over it resting on the sticks, so that the ants can get in but other animals be kept from it. We had some fly-destroyer, or fly-paper, from a chemist, and we found it of great service in thinning them.



**POTATO SCAB (*M.*).**—When manure is largely mixed with either lime or ashes we find the Potatoes liable to scab. It is also prevalent where the sets and tubers are in contact with the manure. We find Potatoes less liable to scab on newly-broken-up land than on that which has been long cropped, and that they are never so much affected in ground where the manure is applied some time previous to planting and well mixed with the soil, as where it is applied immediately under or upon the sets.

**TAKING UP POTATOES (*Idem*).**—Potatoes are ready to take up—1st, when the tubers have attained their full size. 2nd, when the leaves begin to fall and the haulms turn brown. 3rd, when the tubers come freely from the vines without having to jerk them off violently. 4th, when the skins are firm and will not come off easily when rubbed. Your Potatoes are not fit to take up whilst growing and blossoming. They will be best left alone until done growing. Last year Dalmahoy and many others ripened earlier than usual in consequence of the unprecedented dryness of the season. Judging by the appearance of our second early Potatoes we think they will not be ready to take up for storing before the end of August, and the main crops not until the middle or end of September. They promise a good crop.

**CROPPING A GARDEN (*Idem*).**—Generally two crops are as much as can be taken from the same ground in one season, because they take up a certain time from sowing or planting to arriving at maturity. Your being informed by a gardener of high standing that a garden ought to have five crops in a season may be correct as to Lettuce, Spinach, and similar crops that are frequently sown, and soon come into use. The assertion does not hold good as regards Carrots, and Onions, to say nothing of Peas, and all the Cabbage tribe. Manure after every crop; never leave anything on the ground a single day after it ceases to be of use; plant or sow something upon it the same day; never let it be idle, and you will then obtain all that can be had from the ground in a season. The papers now appearing by "BURNWOOD P.D." contain much relating to cropping a kitchen garden.

**APRICOTS ROTTING (*Marston*).**—We have not experienced any annoyance from Apricots rotting off as they ripen. In the absence of any particulars of the disease we are unable to assign a reason or point out a remedy.

**VERBENA PEGS (*Idem*).**—They may be obtained from the principal London seedsmen, but we can tell you how to make them cheaply and expeditiously by the thousand. Procure some thick bamboo canes. Saw them into six-inch lengths. Split these into thin slips about the eighth of an inch thick, and place in water for a few days. When thoroughly wet split with a knife to the thickness of lucifer matches, and they are then ready for use, still keeping in water to render them pliant. In using them the ends are brought nearly together and thrust into the ground, with the shoot to be pegged between them. In this way they form so many wood-like hairpins, and are much cheaper. An expert hand can make several thousands in a day.

**BANKSIAN ROSES NOT BLOOMING (*E. Hicks*).**—The reason these Roses bloom so seldom is that people cut away the small twiggy shoots on which they for the most part bloom. Such shoots should not be shortened, and but little pruning is required in any part until the wall be covered. Banksian Roses flower more freely in dry soils than in those which are wet and retentive. If the branches be shortened they put forth a profusion of strong shoots and do not bloom. Old plants towards the end of summer often produce immensely thick and strong shoots. Early in autumn these should be removed, that the flowering twigs may not be exhausted by them.

**APPLES, PLUMS, AND PEARS FOR A NORTH-WESTERN ASPECT (*T.*).**—The fruits you wish to grow on an aspect which is north-west by north do not generally succeed well there. They would do fairly, but would not be equal to those on more favourable aspects. The fruits which you do not wish to grow—viz., Currants, Gooseberries, and Morello Cherries, would be more profitable than Apples, Plums, and Pears. The kinds of Plums most likely to bear moderately, are Pond's Seedling, Kirke's, Coe's Golden Drop, and Guthrie's Late Green. These at 20 feet apart, the first at 10 feet from the end of the wall, will occupy 80 feet of the wall, and if more Plums are wanted Green Gage and Jefferson may be added. Apples—Hawthornden, Max Codlin, Keswick Codlin, Norfolk Bearc, Blenheim Orange, and Scarlet Nonpareil. Pears—Louise Bonne of Jersey, Bergamot, Gansel's Late, Colmar d'Été, Alexandre Lambré, Boursé Superfin, and Thompson's. The Apples on the Paradise should be 15 feet apart, and the Pears on the quince at 12 feet apart.

**CONSTRUCTING ROCKWORK (*L. J. E.*).**—Some notes on the subject will be found at pages 333 and 372 of the last volume. The construction of rockwork is a matter of taste; keep in view boldness of feature and distinctness, and rugged outline. In forming these rocks on the islands you will make a footing for them below the level of the water so that they may appear to rise from it. On these the remainder of the rockwork may be constructed. It is not necessary to cement the stones together unless small, when doing so would impart massiveness to fragments. The whole of one or more of the islands may be converted into rockwork with green patches here and there. In others it should be confined to the water's edge with stones jutting out in places, forming ledges level with or a little below the water, others rising abruptly from it in parts, and to some height, whilst at the other side they may rise little, and be confined to the edge of the water. The stones will hold together without any cement, only make every stone firm before placing another upon it. Use few and large stones, and aim at a natural effect.

**SEEDLING HOLLYHOCKS (*M. Smith*).**—The flowers are good, but there are many like them, and many better. No judgment can be formed of the merit of a Hollyhock unless a whole spike can be seen.

**CRICKETS (*J. Acton*).**—In No. 222, published June 27th last, we gave all the information we possess relative to destroying crickets.

**VARIED FORMS OF CONIFER LEAVES (*Man of Kent*).**—We consider the specimens you enclosed are from a *Juniperus chinensis*, or Chinese Juniper. The prickly leaves will cease to appear as the tree becomes older. The others are only the mature leaves of different ages.

**CUCUMBERS OUT OF DOORS (*Pease Hill*).**—We refer you to page 67, but will see what more can be done. Very correct information, however, is not so easily obtained, unless you are on the spot and can see for yourself. The Sandy growers have long been the earliest in the country, but that holds true also in general of Peas and Potatoes, except those brought from Cornwall and Devon. The light warm soil is the chief cause of the early success.

**FLOWER-BEDS NOT THRIVING (*An Old Subscriber*).**—The remains of an old Melon-bed will be good for manuring flower-beds next season, after it is well rotted and sweetened by exposure to the air, and several turnings. The exposure and the turning dissipate a portion of the manuring principles, but this is more than compensated by the sweetness and friability obtained. Beds can only be over-manured when the plants grow too much to leaf and too little to bloom, and beds that would scarcely be rich enough in a hot dry summer, will be much too rich in a wet moist season. We often must make a risk in these matters, as we cannot know what the season will be before it comes. We are, however, just a little in doubt whether what you call your failure is owing to the manuring, or to the winter planting of your flower garden. If you had a good show from bulbs, annuals, &c., in spring, you must not expect that the bedding plants will answer first-rate, unless you can give them extra attention, and have the ground well stirred before planting them out. Some of our own beds that had some old hotbed dung turned into them looked better three weeks ago, before the heavy rains came. If a dry autumn come they will be fine again. If it should be dull and wet we shall have too much foliage, and the leaves will be so large that a portion of them will have to be removed. But, on the whole, extra growth is more pleasant to look at than extra stuntedness. On light poor soil, all the twelve plants you mention would be the better of a little sweet rotted manure. In soil moderately rich, and where the climate is at all moist, we would give manure, as above, to *Calceolarias*, *Verbenas*, *Lobelias*, *Linum*, and *Gazania*, but we would give little or none to *Phlox Drummondii*, *Saponaria*, *Amaranthus melancholicus*, *Petunias*, *Scarlet Geraniums*, *Tropaeolums*, and *Mesembryanthemums*. In rich soil all the latter will grow too much to leaf. *Mesembryanthemums*, *Portulacas*, &c., and things of that kind, do best in poor sandy soil, and better still if the rows are planted on little hillocks so as to escape damp. Three weeks ago we had a beautiful *Petunia*-bed allied to the old Shrubland Rose. The bed was raised in the basket style, and the outsides were bordered with a blue *Nolana*. The soil having become exhausted, fresh and richer soil was given, and nothing could have looked more lovely and compact than these *Petunias*. The heavy warm rains have left abundance of bloom, but it has more than doubled the length of the plants, and to prevent their falling or being swept by the wind into unseemly bundles, we have had to stick the bed all over with branches some 30 inches in length. Could we have been sure of such heavy warm showers, and the ground hotter than we have ever experienced, the poorest fresh soil would have been the best for these *Petunias*. As it is, it required some hours' labour to make and keep the bed handsome. We may mention that the plants had been at first pegged down regularly, and then, as the plants grew, the bed was stuck all over with twigs some 14 inches in height, that being thought sufficient; and it would have been so in a dry season like the last. We would wish to oblige "AN OLD SUBSCRIBER" more definitely if we could, but the season makes such a difference in growth, that an unvaried rule of manuring or not manuring can scarcely be given.

**GRAPES NOT COLOURING (*J. H.*).**—We are no great advocates for dulled plate glass for forcing-houses, though we have not met with any want of colouring in the fruit grown under it, when, as in your case, plenty of air and heat were given, and the roots kept in such a nice condition. We incline to think that the very heaviness of the crop and the size of the berries have been too much for the colouring matter. Here we may remark that lately in a meeting of gardeners, and with specimens of Grapes before them, alike well grown, but some imperfectly and others perfectly coloured, it was agreed by a majority that the somewhat reddish Black Hamburgs were sweeter and more luscious than the black ones. There is a secret about colouring besides heaviness of crop. We have had very heavy crops well coloured, and a few bunches on a Vine that yet never became black.

**STRAWBERRY CULTURE.**—In answer to an "ORIGINAL SUBSCRIBER," I reply that if a plant, being either pistillate or hermaphrodite, does not fruit the first season, it will fruit the more abundantly the next in consequence of having a year's grace. I frequently disroot weak plantations and deprive them of runners, and always find that they will repay me the next season. I have received the thanks of Mr. C. Turner for the Strawberry article, and I beg to acknowledge the thanks of an "ORIGINAL SUBSCRIBER." The season lasted here from Whit Sunday till July 16th. I ended well with the Frogmore Pines and John Powell, two admirable late sorts; they are both long in bearing. The former has a nice briskeness, not amounting to acidity; the latter is sweet, rich, and delicious. Both are handsome.—W. F. RADCLIFFE, *Tarrant Rushton*.

**PROPAGATING LYCOPODS—EVERGREEN CLIMBER FOR A PORCH (*Peepny*).**—Most Lycopods may be propagated by cuttings and divisions. The smallest will grow in a moist warm place. We do not think there is any little work on the subject. The British Lycopods and Mosses would be the best in a closed porch. Such kinds as the Swiss denticulatum which creeps very freely, would stand well on such a closed porch when the adjoining hall had a fire in winter. The North American apodum, and rupestre we think would also do, if kept moist and often moved, as the first is apt to give way in the middle. Such British kinds as alpinum, clavatum, and selaginoides are very interesting, but they will not spread, nor look so green as denticulatum. For covering a dark back wall nothing is better than *Cissus antarctica*. You do not give us so definite a statement about the porch as to enable us to state whether a Vine would do in it, or what other evergreen creepers would be most suitable. You speak of a window south-west. Well, has it a roof of glass with merely a window or two? Unless large, you could not do much with evergreen creepers, except the variegated Ivy perhaps, but if you will give us the width, length, and height of the porch, and whether it has a glass or an opaque roof, we will do what we can to meet your case.

**HEATING A GREENHOUSE AND DETACHED HOUSES (*J. P. Liverpool*).**—If you can go low enough, we would recommend a conical boiler of middle size, say 2 feet in height; if not, a saddle-back of similar size. There will be no difficulty in heating the two houses, though the one is 25 yards apart from the other—that is, if the level admits of it, but you will be able we presume to make little use of the 50 yards of piping which will be required between the two houses. The heating of each house may be quite independent of the other, and but for the connecting-pipes, there need be no difficulty if the ground from the first to the distant house rises a little all the way. The pipes of connection may be packed in sawdust in a dry drain; or better still in an open drain, with an open end into the house, and the heat will thus be conveyed from the pipes. If you gave us more definite particulars we should be happy to help you all we can. We are surprised at the flue not answering.



**HEATING A GREENHOUSE, VINERY, AND STOVE** (*An Old Subscriber*).—To heat three houses 31 feet by 12 you would require a boiler about 2 feet in length, and dimensions of fireplace, 13 inches wide and the same in height. A saddle-back of 20 inches in length would do, but very small boilers are economical only at the first purchase. You do not tell us whether your houses are to be lean-to's, or span-roofed, or whether the vinery is to be forced early. For a lean-to house you would need from 120 to 130 feet of four-inch pipe. For a vinery to commence in November or December you would require as much. To begin in the end of February, some 90 feet would do. For the greenhouse 60 feet at least would be required to keep out frost, and from 90 feet if you wished the house to be from 45 to 50 in winter. You had better err on the safe side and have more instead of less, as the less heat there is in the individual pipe, to keep a requisite temperature, the better it will be for all things grown in the house. The position of the boiler is also a matter of importance; supposing the stove to be in the centre, the boiler had best be placed near that house.

**WANTED VINE LEAVES** (*Wm. Lucas*).—The warts on the back of the leaves are produced partly by a damp border, but chiefly by a close moist atmosphere. Nothing will remove those affected this season. More air and heat may prevent anything of the kind next year. The spider has nothing to do with it.

**ENTOMOLOGICAL WORK** (*H. G.*).—Humphrey's and Westwood's "British Moths and their Transformations" gives all the British species known at the time of publication, with the caterpillars; also Humphrey's "British Moths" and Morris's "British Moths," but all these works contain the Microlepidoptera, none being restricted to the families you name.—W.

**NAMES OF PLANTS, &c.** (*Hyson Green*).—*Erodium moschatum*; *Excelsior Marrow Pen.* (*S. T.*).—We are sorry to trouble you again, but your letter did not reach us along with the fruit, and the connection between the two was consequently lost. (*C. P.*).—1, *Galceopsis ladanum*; 2, *Galceopsis tetralix*. (*G. W. J.*).—*Plumiera alba*. (*S. H.*).—1, *Galium verum*; 2, *Portulaca oleraceae*.

### METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending July 29th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 23	29.971	21.826	77	48	64	624	S.W.	0.26	Slight rain; showery; overcast; rain.
Mon. . . 24	30.161	30.117	80	54	64	624	S.E.	0.06	Uniform haze; overcast and hot; rain at night.
Tues. . 25	30.238	30.193	81	49	65	634	S.E.	0.00	Uniform haze; very close and hot; very fine.
Wed. . 26	30.290	30.263	85	48	66	644	S.E.	0.00	Very fine; clear and hot; exceedingly fine.
Thurs. 27	30.216	30.141	87	40	67	644	W.E.	0.00	Very fine; very hot and dry, with contrary winds; overcast at night.
Fri. . . 28	30.227	30.133	80	41	66	644	N.W.	0.00	Clear and dry air; very fine, with a few light clouds; overcast.
Sat. . . 29	30.078	29.994	82	50	65½	64	S.W.	0.01	Very fine; clear and hot, with excessively dry air; very fine at night.
Mean..	30.174	30.096	82.14	47.14	65.35	63.71	....	0.33	

### POULTRY, BEE, and HOUSEHOLD CHRONICLE.

#### ARTIFICIAL INCUBATION.

I THINK it possible that some of your readers may like to hear the record of a young poultry fancier's failures and successes. For three or four years I had kept a few fowls, but my supply of eggs and poultry was so scanty and precarious that I balanced for some time whether I should attend to them personally myself, or give them up altogether. At the beginning of last year for five months I had not had a single egg. I then purchased Mrs. Fergusson Blair's "Henwife," and followed her directions as to a more generous and regular system of feeding. The result was that I quickly had a fair supply of eggs, which went on continually increasing. I purchased a few pure-bred fowls at the Birmingham monthly sales, and procured some first-rate sittings of eggs from friends at a distance. I had tolerably good luck with them, and sent three pens of birds to the Birmingham Show last November, putting a guinea a-head on them. They were all sold the first day, and I replaced them with other birds at the same price, so as to give myself a change of breed. At the close of the year I found that my expenses had been £49, and my receipts (including the home-consumption at market price), had been £48 15s.

At the beginning of this year I had six cocks and about fifty hens and pullets. My supply of eggs never failed. I had four or five dozen weekly, even when the ground was covered with snow; but my early sittings were almost all failures, and both my own eggs, and those I purchased, brought forth miserably small broods; and even those small broods were decimated by the weather and accidents. As I had seen incubators praised and advertised in your columns, I determined last Easter, being in London, to buy one. I set this to work immediately on my return, in the beginning of May. In the first week of that month I placed forty eggs in the incubator, and set five hens at the same time. Day and night I watched the incubator; but I could not keep the thermometer from rising sometimes to 112°, and at another sinking to 85° or 90°. Most anxiously, as the twenty-first day drew near, did I listen for any sound of life, but in vain. Day after day, as the chicks became due, did I watch and turn the eggs; but when my five natural hatchings had succeeded, two bringing forth every egg in their nests, I broke one by one all the forty eggs. They all showed the same appearance, one-third being empty, and the rest without any signs of a living chick, but also without any offensive smell. This has been a great disappointment, and I shall be glad to hear from any amateur how far they have succeeded with an incubator. Mine was constructed to burn a new lamp with artificial gas, from naphtha or some like

spirit. It consumed two gallons (price 12s.), in twenty-eight days; so that, even if I had succeeded, the cost of incubation was something considerable. My idea in ordering the incubator was to try the experiment now, and, if tolerably successful, to set it to work early next year with my first sittings, so as to give me an additional chance of early chickens; but if I cannot make it succeed in May, how can I expect it to answer in February? I have inquired for some work on incubation, but can hear of none, and I cannot tell from what cause my recent experiment failed. I have never met with any one who has tried an incubator, so that I have no means of judging whether I should have better luck next time. Should you insert this letter in your Journal it might bring some answer as a guide to a future trial, otherwise I must own my previous experience has given me but little encouragement to try again.—A COUNTRY PARSON.

[The letter which we print from "A COUNTRY PARSON," is that which we some time since promised to answer next week. It will, probably, seem to our correspondent, that the next week is like the schoolboy's "to-morrow," or the debtor's "very shortly." We have been waiting for every experiment to be tried, and are now in a position to say an incubator will be shortly offered to the public that has never failed. We have not only closely examined the machine, but have seen the results at every age. We have seen Ducks and chickens hatched and hatching with a general average of three-fourths. They have come out strong, clean, healthy, well-formed chickens. The heat is so regulated that the machine may be left for forty-eight hours, if necessary, without the fear of variation. The application of it to the egg has been as nearly as possible assimilated to the natural process of the hen, to which we attribute the unusual strength and health of the chickens. The artificial mother, hitherto the bane of all these inventions, has really become a very useful and successful thing. It is patented, and will be immediately brought out by a company (limited).

The advantages of such a machine are incalculable to the poultry world, whether they be amateurs or dealers. We can all recollect last year, the total absence of broody hens from November till March; and the consequent disappointments to the first class, and loss to the second. It will be a most valuable adjunct to a yard, and our excellent correspondent, the "COUNTRY PARSON," was acting on sound principles when he put eggs under hens, and in the machine on the same day. It is one of the advantages of an invention like this, that it enables us to put a full brood to every hen. In Surrey, Sussex, and the parts of Kent that devote themselves to poultry, these machines will be of eminent service in increasing the supply of early chickens, now so scarce and dear during the months of April, May, and June.

Their utility will not, however, be confined to poultry. They



will be inestimable to the Game breeder during the Pheasant season. Considerable breeders ourselves in each department, we do not hesitate to say, that we anticipate unqualified success and benefit from the introduction and use of this hatching-machine. Our advertising columns will shortly give our readers full particulars, and also the address where it may be seen in action.—B.]

### CAMBRIDGESHIRE AND ISLE OF ELY POULTRY SHOW.

THE first Poultry Show which has been held for many years in this county, took place in the Parade Ground, Ely, on Wednesday, the 26th of July. The weather was extremely fine, and there was a very large attendance of visitors. The *Spanish* fowls were good specimens; but the Coloured and also *White Dorkings*, were of superior merit. The *Cochin-China* fowls were very creditable; and the *Game* were largely represented, and all of them were first-class specimens. However, Mr. S. Matthews, of Stowmarket, took both the first and second prize with *Brown Reds*, and the other with *Black-breasted Red*. The *Golden-pencilled Hamburgs* were all good specimens, as also were the *Silver-pencilled*. The *Gold* and *Silver-spangled* were not so well represented as many of the other classes; but in the *Silver-spangled* class we observed some magnificent birds, and this class, although small, must have given the Judge a good deal of trouble and anxiety. The *Dantum* class was large, but chiefly represented by *Game Bantams*, which were generally of superior merit and beauty. The *Ducks* were exceedingly fine. There was but one pen of *Geese* exhibited, and that was a beautiful pen of the *Cravat Goose*, or *Anser canadensis*.

Altogether the Show must be considered a complete success, and being in connection with the Agricultural Show, many thousands flocked to the ground in the course of the day, and we congratulate the Committee of Management on their success.

The following are the awards:—

**TURKEY.**—Prize, Mrs. G. S. Hall. Highly Commended, Mrs. G. S. Hall; J. Jessup, Littleport.  
**SPANISH.**—First, Mrs. G. S. Hall. Second, A. Rae.  
**DORKING (Coloured).**—First, H. Lingwood. Second, W. T. Everard. Highly Commended, Capt. Colthrop.  
**DORKING (White).**—First and Second, H. Lingwood. Highly Commended, W. T. Everard.  
**DORKING (Any other variety).**—Prize, H. Lingwood. Highly Commended, Capt. Colthrop. Commended, J. H. Chambers.  
**COCHIN-CHINA (Any variety).**—First, H. Lingwood. Second, J. Wright. Highly Commended, Mrs. G. S. Hall.  
**GAME (Any variety).**—First and Second, S. Matthews. Highly Commended, T. Everard. Commended, C. Clarke.  
**HAMBURGH (Gold-pencilled).**—First, Rev. H. J. Carter. Second, Mrs. G. S. Hall.  
**HAMBURGH (Silver-pencilled).**—First, A. K. Wood. Second, J. S. Saltmarsh. Commended, J. A. Dimmock.  
**HAMBURGH (Gold-spangled).**—First, J. Wright. Second, A. K. Wood. Highly Commended, R. Tate.  
**HAMBURGH (Silver-spangled).**—First, A. K. Wood. Second and Highly Commended, C. Bamford.  
**BANTAMS (Any variety).**—First, G. Manning. Second, J. C. Lowndes. Highly Commended, G. Clarke.  
**ANY OTHER VARIETY.**—First and Second, J. Wright. Highly Commended, C. Ambrose, Peterborough.  
**DUCKS.**—First, G. Comins. Second and Highly Commended C. Bamford. Commended, Capt. Colthrop; J. O. Fison.  
**GOOSE.**—Prize, Mrs. G. S. Hall.

Mr. James Monsey, Norwich, officiated as Judge.

### THE SCARBOROUGH, HACKNESS, AND NORTH AND EAST RIDINGS POULTRY SHOW.

JULY 22ND.

So far as the weather and company could contribute to make it a successful exhibition, we should say this was second to none of its predecessors.

**SPANISH.**—First, W. Massey, Fulford, York. Second, W. Charter, Driffield. Commended, J. Hadfield, Cottingham. *Single Spanish.*—Prize, O. A. Young, Driffield.  
**DORKING.**—First, W. Hunter, Green Hammerton, York. Second, J. Hatfield, Cottingham. Commended, Mrs. Dale, Scalby. *Chickens.*—First, W. Hunter, Green Hammerton. Second and Commended, Mrs. Dale, Scalby. *Single Dorking.*—Prize, Mrs. Dale, Scalby.  
**COCHIN-CHINA.**—First and Second, T. Barker, Hovingham. Commended, O. A. Young, Driffield. *Single Cochin-China.*—Prize, R. Smith, Norton. *Chickens.*—First, T. Barker, Hovingham. Second, H. Merkin, Driffield. Commended, O. A. Young, Driffield.  
**GAME.**—First and Second, G. Pounder, Kirby Moorside. Highly Commended, M. Hunter, Green Hammerton. Commended, G. Cartwright, Seamerlane, Scarborough. *Single Game.*—Prize, W. Dawson, Scarborough. *Chickens.*—First, M. Hunter, Green Hammerton. Second, G. Pounder, Kirby Moorside.  
**HAMBURGH (Golden-spangled).**—First, J. Hall, Willerby, Hull. Second, J. Dobson, Pickering. *Single Golden-spangled.*—Prize G. Holmes, Great Driffield.  
**HAMBURGH (Silver-spangled).**—First, Miss Hawson, Pickering. Second, R. Drummond, Scarborough.

**HAMBURGH (Golden-pencilled).**—First, G. Holmes, Driffield. Second, F. Stubbs, jun., Snainton. *Single Golden-pencilled.*—Prize, O. A. Young, Driffield. Commended, F. Stubbs, jun., Snainton.  
**HAMBURGH (Silver-pencilled).**—First, G. Holmes, Hull. Second, Miss A. Charter, Driffield. *Single Silver-pencilled Hamburg.*—Prize, G. Holmes, Driffield.  
**POLAND.**—First, —Loft, Woodmansey. Second, O. A. Young, Driffield. *Single Poland.*—Prize, O. A. Young, Driffield.  
**ANY DISTINCT BREED.**—First, —Loft, Beverley. Second, O. A. Young. *Single Bird.*—Prize, O. A. Young.  
**BANTAM (Black and White).**—First, R. Smith, Norton. Second, Lady Londesborough, Grimston Park. *Single Black and White Bantam.*—Prize, R. Smith.  
**BANTAM (Neither Black nor White).**—First, G. Holmes. Second, J. Pickering, Driffield. *Single Cock.*—Prize, G. Holmes.  
**ANY OTHER VARIETY.**—*Chickens.*—First, R. Smith, Norton. Second, Miss E. Charter, Driffield.  
**GEES.**—Prize, O. A. Young. *Goslings.*—First, Mrs. Elsworth, Yeddingham. Second, Mrs. J. Darrell, West Ayton.  
**DUCKS (Aylesbury).**—First, O. A. Young. Second, Mrs. G. P. Dale, Scalby. *Ducklings.*—Prize, O. A. Young.  
**DUCKS (Rouen or any other breed not Aylesbury).**—First, A. Catley, York. Second, O. A. Young. *Ducklings (Rouen).*—First, Miss E. Charter. Second, R. H. Boyes, Aislaby. *Any other variety.*—First, Mrs. J. Darrell, West Ayton. Second, O. A. Young.  
**TURKEY.**—First, Mrs. Dale. Second, Mrs. Hopper, Wykeham Grange. *Turkey Poult.*—First, O. A. Young. Second, Mrs. Dale.  
**GUINEA FOWLS.**—First, O. A. Young. Second, H. Merkin.  
**SELLING CLASS.**—First, Miss E. Charter. Second, G. Holmes.  
**PIGEONS.**—*Croppers.*—First, —Dotchen, Whithy. Second, —Nicholson Carriers. —Prize, —Dotchen, Whithy. *Trumpeters.*—Prize, E. N. Royds, Asby-de-la-Zouch, Jacobins. —Prize, —Cooper, Weaverthorpe, Fantails. —Prize, F. B. Lockwood, Scarborough. Highly Commended, R. Esh, Helperthorpe, Malton. *Tumblers.*—Prize, —Dotchen, Whithy. *Barbs.*—Prize, —Dotchen, Whithy. *Nuns.*—Prize, G. Holmes, Driffield. *Balds.*—Prize, —Dotchen, Whithy. *Drolls (Blue or Silver).*—Prize, W. Graves, Ayton. *Turbits.*—Prize, J. Hodgson, Scarborough. *Dragoons.*—Prize, O. A. Young.  
**ORNAMENTAL WATER FOWL.**—Prize, Mrs. J. Hopper, Yedmandale.  
**RABBITS.**—Prize, R. Dobson, Fulford, York, and O. A. Young, Driffield, divided the money.

### CLEVELAND AGRICULTURAL SOCIETY'S SHOW AT GUISBOROUGH.

THE Show of this Society was held July 25th, at Guisborough, on ground provided, as usual, by Capt. Chaloner. The weather was beautifully fine, and, consequently, a large number of visitors assembled.

**SPANISH.**—Prize, W. Milburn, Guisborough.  
**DORKING.**—Prize, J. White, Warbur, Northallerton. *Chickens.*—Prize, W. Leason, Driffield.  
**GAME COCK.**—Prize, J. Richardson, Middlesborough.  
**GAME (Any age).**—Prize, P. Sturdy, Ingleby Mill, Stokesley.  
**ANY BREED OR CROSS.**—Prize, Rev. J. G. Milner, Bellerby, Leyburn. *Chickens.*—Prize, R. Enaby, Ormesby, Middlesborough.  
**BANTAMS (Any age or breed).**—Prize, J. Pickering, Driffield.  
**DUCKS (Aylesbury).**—Prize, W. Smith, Peyton-carr, Stokesley. *Ducklings.*—Prize, Miss Smith, Peyton-carr, Stokesley.  
**DUCKS (Rouen).**—Prize, J. Farrington, Crossbeck House, Normanby. *Ducklings.*—Prize, J. Farrington.  
**DUCKS (Any breeds not Aylesbury).**—Prize, Rev. J. G. Milner.  
**GEES.**—Prize, O. A. Young, Driffield.  
**PIGEONS.**—*Carriers, Nuns, Turbits, Archangels, Jacobins, Trumpeters, Fantails, Barbs, and Dragoons.*—Prize, T. C. Taylor, Middlesborough. *Tumblers (Almond).*—Prize, J. Wetherell, Hartlepool. *Owls.*—Prize, T. Rodham, Guisborough. *Any other New or Distinct Variety.*—Prize, A. Donaldson, Lackenby, Redcar.  
**RABBITS.**—*Length of Ears.*—Prize, O. A. Young, Driffield. *Coloured.*—Prize, O. A. Young. *Foreign or any other Variety.*—Prize, W. Lawrenson, Eaglescliffe, Yarm.

### BELFAST POULTRY SHOW.

BEING one of those who strove to win the cup, but did not, I am afraid of being mistaken for your "vituperative" correspondent, and beg to state that I had nothing whatever to do with the report of the Belfast Show published in your Number of the 18th ult. It is impossible for the Judges to please everybody, and I would like better proof of their incompetence than the mere assertion of a disappointed exhibitor. Mr. Beldon was fairly entitled to the cup, having had the greatest number of first prizes; still the Nettlefield birds require no "laudation" from me, having carried off a greater number of prizes of all sorts at this Show than those of any other exhibitor, except Mr. Beldon, and only for him would have won as many first prizes as any two of their opponents put together, the gross numbers being—

H. Beldon . . .	19 prizes of all classes, and	1 Commended.
F. H. Lewis . .	15	Ditto. 4 Do.
R. Boyle . . . .	15	Ditto.

Still I hope Mr. Beldon and other English exhibitors will continue to compete at our Shows. I will give them a hearty welcome, and every assistance in my power, and if I cannot beat them I will do the best I can.—FREDERICK H. LEWIS, Nettlefield, Belfast.

## CANKER IN PIGEONS—COLOUR OF EYES.

A PIGEON of mine had, as I suppose, canker just above the beak, a tumour opening into a very unpleasant-looking dark yellow cavity. For this complaint Moore advises the application of burnt alum, and Roman vitriol. Mr. Brent suggests caustic, and scraping with a spatula shaped for the purpose from a bit of wood. For the benefit of those who do not happen to have Roman vitriol in store, and have, perhaps, an inadequate notion of a spatula, I can recommend a third process—viz., letting the bird alone, which mode of treatment resulted in a complete cure. I was led to this discovery by having invariably failed in doctoring all previous ailments in my columbarium.

I saw the other day a curious sport from a pair of Archangels of an inferior colour throughout, which the dealer called yellow, but which I regarded as red. The regular form was preserved, but not the glossy lustre that should belong to that variety. It seems a pity that Pigeon-fanciers' standards of taste are so conventional. The brilliant red and yellow iris is ignominiously described as "gravel," while the pinky white passes for "pearl." Now, the former colour harmonises exactly with a blue-necked bird, and is a relief to a black or white one. On the other hand, I cannot concur with the author of a paper on the Archangel, who prefers a "rich golden eye" for that bird. The gold, I imagine, kills the orange hues of the neck, and would be well replaced by as pure a white as might be attainable.—T. TRUNER.

## REMOVAL OF SUPERS.

HAVING seen occasional inquiries in the "Journal," as to the best way to take off supers and to expel the bees, and also having frequent applications made to me personally for information on this point, perhaps it may not be amiss, now that the time for the removal of supers generally has come, or is at any rate drawing near, to give the results of my own experience. I used formerly to be with me a task of very great difficulty, and as my time for these and most other manipulations connected with my apiaries is almost entirely confined to the mornings and evenings, I have often dreaded the commencement of the operation, fearing lest there should be insufficient time for effecting it thoroughly before the "shades of evening" should close over us, or the usual business hour of the morning approach ere the stubborn bees were induced to leave their own well-filled storehouse. Occasionally it has been necessary to confine the bees in the super for the day or night, or until a further opportunity presented itself. The plan usually recommended, is to remove the super with its adapter as gently as possible to a distant part of the garden, or to a room partially darkened, having one aperture only for the admission of light, and to afford exit for the bees. The super is then to be tilted on edge, and the bees allowed to find their way out gradually; then flying to the light they are supposed to go quietly home.

This is a plan I have adopted with success in many instances, but occasionally the bees would not go; then various means had to be resorted to to make them. Patience at length would become exhausted, and as the bees came to the surface of the combs, or wherever they could be reached with a feather, they were remorselessly brushed off on the floor. The majority would fly or crawl towards the light, but a great number would fail to reach their homes, from having filled themselves to repletion with honey filched chiefly from the unsealed cells. I also found that this plan was certain to attract robber bees, and that, notwithstanding the darkened room, hundreds would enter to endeavour to share the spoil.

I have found when bees were unwilling to leave a super, that shutting them closely in until they became really inconvenienced from the confined air, and then affording them means of exit, they would tumble out with a great rush; this repeated several times would at length prove successful in nearly clearing the combs. Still there were a few that would stick to their colours, nailing them closely to the mast, resolved never to yield. To get rid of these was often a work requiring great time and trial of patience. The most difficult cases are those of bell-glasses, when it is desirable that the bottom of the combs should not be severed from their attachments to the adapters. The small central aperture affords a very contracted space for the departure of the inmates. A considerable amount of time is usually requisite under such circumstances. The glass must be wrapped up, so as to show but one aperture (that by which the bees ascended for work) whereby light can be seen. Gradu-

ally, provided it is not assailed by robbers, the bees will leave it, and it is desirable that no shaking of the super, or brushing of bees, be resorted to.

I have, when the communication with box-supers could be shut off by slides, occasionally had them completely cleared of bees in a few minutes without removing the supers from their stocks. Having pushed in the slides, the bees are allowed to remain undisturbed until they begin to show unmistakable signs of excitement; the super is then gently raised in front about half an inch, or an entrance aperture is opened, a stream of bees will pour out and descend the front to the entrance of the stock-hive. The owner must watch, and if a cessation occurs before all the bees have left, he must again confine them for a bit, carrying off the super so soon as he thinks it tolerably cleared of them. I have taken away well-filled straw hives worked on Taylor's doubling-board plan, perfectly cleared of bees in two or three minutes, by pushing in a zinc slide between the two boards and opening an unused entrance in the hive to be appropriated. As slides are almost entirely abolished in my apiary (one good hive only is retained, which is so worked), this last plan is now very seldom resorted to by me.

Of late years I have adopted the use of large-sized supers, capable of containing from 35 lbs. to 75 lbs. of honey, of which some are of glass, some almost entirely of glass, being framed glass octagons, and others simple wooden boxes. My apiary having largely increased, and the time at my disposal for attending to the requirements of the bees having become more and more limited, I was at length led to adopt a far more summary method of dislodging bees from the supers, and this was the all-powerful persuasion of *driving*, which up to this date I have never found to fail in effecting the desired end in an incredibly short space of time. At first it was tried on wooden supers only, as I thought it would be almost a matter of impossibility to handle glass supers in a manner sufficiently rough for the purpose. But finding that the bees could be so readily induced to ascend into an empty hive from the ordinary box supers, I was not long in making the attempt with a large mahogany-framed glass octagon.

I choose a hollow-sounding deal table, or fix a board with its ends resting on two hives or similar support. The glass super is removed as gently as possible, and immediately inverted on this table or board. A straw hive is placed over the combs, and without tying round with a cloth, a gentle drumming is kept up on the board or table, the super itself not being touched except to steady the straw hive. As the bees ascend I usually tilt the straw hive on edge, watching them as they go up. If the straw hive is larger than the super, I hold it on with one hand, so that, perhaps, only one part of its edge comes in contact with that of the latter. It seems to have no effect in preventing the ascent of the bees. It is advisable to select a hive that is free from dirt, which may be shaken down with the vibrations, otherwise the appearance of the combs may be sadly marred.

When all, or nearly all the bees, have been forced to ascend into the receiving-hive, I remove them at once. A cloth is fastened so as to rest partly on the floor-board in front of the entrance of the old stock; the other end is secured to the ground. The cluster of bees is shaken out with a few smart concussion between the open hands; falling in front of their proper home they rapidly crowd into it. With a frame-hive the cover can be removed, and the cluster knocked out on the top of the frames; but I usually adopt the plan first described.

When supers are too small to allow of a receiving-hive resting over them, I fix up a temporary stand close to the parent stock, of such a height as to allow the edge of the inverted super to be on a level, and to come in contact with the floor-board. I then drum gently on this stand, endeavouring not to shake the stock-hive, and usually find the bees run up and into their proper entrance in one continuous stream. If they do not all go at first, it may be advisable to remove the super to a darkened room for a little time, or there may be some difficulty in keeping off an attack on its contents by the bees which may pour out from the stock. Still, with a little management, I have found this plan answer very well.

In about an hour and a half of one evening during the summer of last year, I succeeded in dislodging the bees from four large supers, varying in size from 73 lbs. to 20 lbs. In the largest of these, an octagonal glass box, there remained after the operation one solitary drone, which was liberated subsequently. The others were cleared in an equally effective manner, and in addition to this, the adapters were all removed from the stock-hives, the proper tops put on, and all made snug for the



autumn and winter. About the middle of June this year, I took off a beautiful glass-box super of 35 lbs. carrying it into a rather dark arbour. At first I tried whether the bees would leave without my having resort to driving, but after waiting an hour, and finding the bees apparently almost as numerous as at the commencement, I proceeded to drum them out, and in five minutes the majority of the bees had ascended into the upper receptacle.

I think, then, that enough has been said to demonstrate the fact that driving can be safely resorted to for the purpose of freeing supers from the bees, provided due care and precaution be taken, that much needless waste of time may be saved, and the operator be preserved from all apprehensions of the coveted stores being appropriated by the bees instead of by himself. I shall be pleased if the foregoing hints be of use to other apiarists.—S. BEVAN FOX, *Exeter*.

### BEES IN 1865.

I COMMENCED bee-keeping about the 20th March last, when I purchased a hive of bees, a last year's swarm, and at that time very light, but with plenty of bees, and half full of comb. I fed them for a short time and soon they began to work. As in May they increased very fast, I wrote to ask you how to make an artificial swarm in order to stock a set of Nutt's boxes, when you replied that it was too difficult a task for an inexperienced bee-keeper. My bees, as I stated, were so situated at a distance that I could not watch them, so that if they swarmed I should be very likely to lose them. I, therefore, resolved to make the attempt. May 25th, between one and three o'clock, I took the old stock off the stand placing an empty hive in its stead. The full hive or stock I carried some distance off, then turned it upside down in a bucket, placing the pavilion over it, first securing the zinc slides and covering them with straw. I then tied a cloth round where the hives met and began tapping the old one. They buzzed awhile and then began to march up the sides of the pavilion and clustered at the top. I tilted the hive and saw the combs were quite deserted. I then placed the pavilion on a cloth and took the old hive back to its stand. The bees that had mustered, laden with pollen, &c., rushed in. They seemed disturbed for a time and searched the hive all over. The swarm I took a mile and a half off and left it.

The old stock went on well, all busy carrying honey but very few pollen. They each day increased in numbers and soon showed signs of swarming by hanging out, so I tried again on June 20th, and drove the bees in a flat-topped empty hive, but in turning the old hive down on the stand I dropped a large piece of comb filled with honey; I took it away, but the sun being so hot caused more to drop, so that the bees could not get either in or out. I then thought it would be best to take the old hive away and put the driven bees back on their old stand. They have now quite filled the empty hive with comb. I strained 20 lbs. of beautiful honey from the old hive, but found no brood. The swarm went on increasing in numbers and stores, soon filling the pavilion with comb and honey.

I went to see them on the 2nd of July, when I found them hanging out in a great cluster at the front; so on July 3rd, I smoked them in, but during the day they had commenced working in two glasses that I put on, and at night I brought them home and put the hive together, opening one of the end boxes which they soon took possession of, and commenced comb-building. I then perceived a quantity of dead bees in the side box and several bees fighting, and as I had just read an answer given by you in a similar case, advising an opening in the end box for the exit of the bees, I made one three-quarters of an inch long by three-eighths of an inch high, but that night turned out cold and wet. The wind from the south-west so blew through the opening I had made that next day there were not so many bees in the side box, but they had cleared all the dead out, and have since quite deserted it. I have stopped the hole with a cork. The weather is still cold and showery, so I suppose it is too cold in the box, but they have almost if not quite filled two of Neighbour's bell-glasses, so I should like to hear if I have done right. I should also like to know the best way to join bees to others, if by fumigating and securing the queen, or driving; and whether it matters securing the queen, and how, if driven; and what respecting queen encasement, for I cannot see the inside of my hives as if they were bar-hives.—A NEW BEGINNER.

[Your question and answer referred to transferring an old stock of bees to a Nutt's hive, not to stocking it with an arti-

ficial swarm, in which you appear to have succeeded admirably, where a beginner might well have failed. Your attempt to force a second swarm on the 20th June, was a mistake. As you found no brood in the old hive on that occasion, the probability is that the young queen had not begun egg-laying, so that the falling of the combs was very likely the best thing that could have happened, as without eggs or brood no queen could have been reared. Unfavourable weather was, probably, the sole reason of your bees deserting the side box. The best mode of effecting autumnal unions is by driving, as recommended in page 59 of the fifth edition of "Bee-keeping for the Many." We always remove one of the queens, but it does not appear to be very essential, as it is only in comparatively rare cases that we have found both sacrificed.]

### NUTT'S COLLATERAL BOX-HIVE VERSUS STORIFYING.

HAVING read at page 40 of "our Journal" "Scrib's" letter asking your opinion respecting "Nutt's collateral boxes" as compared with the storifying system, I may perhaps be allowed to make one or two remarks respecting both methods as they have answered with me. I have three stocks in three different kinds of hives. No. 1 is in a set of Nutt's collateral boxes. Last season I took about 20 lbs. of pure honey from one box, and 15 lbs. from the other box, leaving the breeding-box untouched, and I shall obtain as much from it this season. No. 2, is on the storifying principle, in a square box 16 inches square by 10 inches deep. I have given both the same attention in every respect, and as far as the season has passed I feel sure I shall not have half so much honey from No. 2 as from No. 1, for at present they have not quite filled a glass super of 8 inches diameter. No. 3 is a hive I had sent me from Germany in a straw skep last February, and when it reached me it was in a sad state, suffering from dysentery; but following your directions, for which I beg to thank you, and keeping the floor-board scrubbed every morning with boiling water and soda, they recovered, and increased so rapidly that at the end of May they were stronger than No. 1, which is three years old; and I was compelled to place a frame-hive alongside of the straw skep, and so let them pass through the latter to prevent their swarming. I tried to drive them in the spring, as directed by Mr. Woodbury, but failed, and I find they are more reluctant in leaving a straw for a box-hive. This German hive is also placed in a collateral position with the frame-hive, which last they are also filling, and from them I shall not have much less than 40 lbs. of honey. But much depends on the management, and I admit I am not so well versed in the piling system as in the collateral; but what may answer with one person may be a total failure with another. All I can add is, that I find the bees prefer working on a level in preference to carrying their stores up two lives; and therefore I would recommend "Scrib" to try both ways, as being the best advice of one who uses Nutt's hives.—T. S.

[We are very glad to "hear both sides;" but in order to give the storifying system a fair chance you should try it with a stock-hive of reasonable size. A box 16 inches square by 10 inches deep is much too large for the purpose.]

### OUR LETTER BOX.

**BUTTERFLIES AND MOTHS (T. R. Drake).**—Stainton's "Manual of British Butterflies and Moths," in two small volumes, will suit your young friend. It is published by Van Voorst, and is cheap.

**STEWARTON HIVE (Yorkshire).**—Mr. Eaglesham, we believe is dead. Apply to Mr. Paton, Joiner, Stewarton, Ayrshire. We are informed that more than two hundred sets of these hives have been sent from Stewarton this year.

**INFERTILE QUEEN (A Reader).**—An examination of the spermatheca of the queen bee which accompanied your letter, proves it to be, like that of the queen submitted to me by "R. S.," destitute of the slightest trace of spermatozoa. She may, of course, be either a young queen or a very old one. If a young queen she has certainly not been impregnated—if an old one she has become completely exhausted, and if she laid eggs they would (like those of a virgin queen) produce drones only. A few lines stating how far the actual history of the defunct queen either corroborates or contradicts the conclusion at which I have arrived will greatly oblige—A DEVONSHIRE BEE-KEEPER.

**DIMENSIONS OF WOODBURY FRAME-HIVES (J. Coward).**—Woodbury frame-hives are 14½ inches square by 9 inches deep inside. Full directions for constructing them, from the pen of Mr. Woodbury himself, are given in the fifth edition of "Bee-keeping for the Many" which you can obtain from this office by sending five postage-stamps.

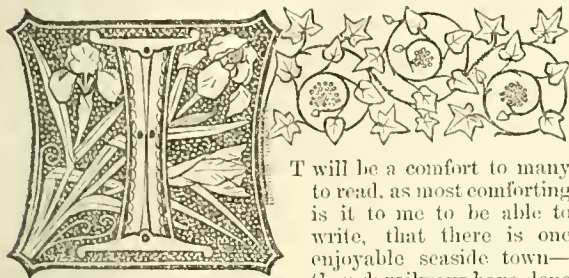
**UNITING BEES (R. C.).**—The best mode of condensing your ten stocks into five is by driving and uniting adjoining stocks as recommended and described in page 59 of the fifth edition of "Bee-keeping for the Many."

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 8—14, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
8	TU	Purple Melic Grass flowers.	74.5	49.7	62.1	16	36	af 4	35	af 7	54	af 7	11	af 6	17	5 22	220
9	W	Sir J. E. Smith born, 1759.	74.6	50.2	62.4	14	38	4	33	7	22	8	31	7	18	5 14	221
10	TH	Calamint flowers.	75.3	52.6	64.0	17	39	4	31	7	51	8	51	8	19	5 5	222
11	F	Artichoke flowers.	75.8	51.3	63.6	17	41	4	29	7	20	9	10	10	20	4 55	223
12	S	Michaelmas Daisy flowers.	75.2	50.8	63.0	14	42	4	27	7	52	9	27	11	21	4 46	224
13	SUN	9 SUNDAY AFTER TRINITY.	74.2	50.3	62.2	17	44	4	25	7	28	10	after.		21	4 35	225
14	M	Meadow Saffron flowers.	72.5	50.8	61.6	15	46	4	23	7	12	11	51	1	23	4 24	226

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 74.6°, and its night temperature 50.8°. The greatest heat was 92°, on the 10th, 1842; and the lowest cold, 32°, on the 13th, 1839. The greatest fall of rain was 1.14 inch.

## ON AND ABOUT THE ROCKS AND SANDS OF TENBY.—No. 1.



T will be a comfort to many to read, as most comforting is it to me to be able to write, that there is one enjoyable seaside town—though railways have done

all they can—still very difficult to be arrived at. This difficulty of access keeps away those pleasure-and-ease-destroyers—stuck-up personages, who think the coat makes the gentleman, and expensive dressing the lady. There are none of these at Tenby; but every one owns Common Sense as the ruler of the place, and lives, and journeys about, and wears costumes conducive to mental relaxation and bodily invigoration. They come to obtain these remunerators, and are wise enough to pursue them without needless encumbrances and hindrances.

No place was ever better described by its name, for Tenby (written Dinbych in old MSS.) is only a southern mode of pronouncing Denbigh, meaning a little fortress on a hill; and such it always was from the earliest record when the Danes were here, just one thousand years since, until its fortifications were finally shattered by the Cromwellian cannon in 1648. The hill is of mountain limestone, and is a long narrow peninsula—so narrow, that the houses on one side its main street look over the southern sands, and the houses on the other side similarly look across the northern. Those sands and their enclosing rocks yield a rich ingathering to the naturalist.

Geology is not among the special objects of this Journal, yet I will crib a little of its space to tattle a few sentences about the fossil plants of the Tenby geology. The mountain limestone on which Tenby rests passes inland, and that limestone supports all the coal strata of Wales. Some of those strata, or "coal measures," are of anthracite coal; those not anthracite are rich in fossil Ferns, Equiseta, and even of those princes of the vegetable kingdom, the Palms. Near Hean Castle is that vein of black clay from which is formed the best of firebricks. In that clay are found the roots of Palms, telling of an age before the Flood, when our climate must have been tropical. Passing along the coast towards Tenby a portion of the rocky strata is passed, so rich in some fossil cryptogamia as to be known as Fern cliff. In the opposite direction is Saundersfoot, where on the shore are found the "beetle stones" polished at Tenby for ornamental purposes. They are black nodules of clay iron-stone, having in their centres white vegetable petrifications, the sections of which sometimes approach an insect form.

There are evidences that the sea is receding from some parts of the adjacent coast, and that it has encroached

upon the coast in other neighbouring parts. Thus, opposite to Amroth Castle, about six miles to the north-east of Tenby, visible at low tides, are the remains of the forest known in the days of the bards as Coed Traeth. The wood of the submerged trees for the most part is decayed and crumbles when pressed between the fingers, but some of it is quite sound.

Four miles to the west of Tenby the sea has receded. There is the Vale of St. Florence—a name bestowed by the earliest Flemish settlers in our island, but known to the Britons as Tregvor; and those are still living who remember when boats rowed to the village, which is now more than three miles from the sea. Its waters, however, have left one evidence of their former presence, for the Samphire (*Crithmum maritimum*), still grows near a bridge not far from the village.

The soil in every direction is extremely light, and I am struck by the evidences of the prevalence of deep tillage and liberal surface-stirring both in the fields and the gardens. Such good cultivation has been taught to the farmer and gardener by practice alone; but it is perfectly consonant with the suggestions of science, and has long been advocated in this Journal. Last year Professor Church carried on a series of experiments instituted specially to prove or disprove the benefits alleged to be the result of deep tillage and frequent surface-stirring. After long-continued drought he ascertained the quantity of water retained in the thirteenth inch of soil, measuring from the surface. In one case, where the soil had been deeply cultivated during the previous autumn, no less than 28.6 per cent. of the apparently dry layer examined was water. In another, where the subsoil was taken from uncultivated land, which had not been disturbed within memory, the per-centage of water was 19.2. In a third case, the subsoil of a kitchen garden, which had been deeply trenched in autumn, yielded 26.2 per cent. of water. In a fourth, the subsoil in the same garden, where the bed had only been half dug, yielded 20.5 per cent. There had been no rain to speak of since the spring, and yet these enormous quantities of water still remained in the subsoil. The soil experimented on is "a light calcareous clay loam, resting on the forest marble."

Whilst writing the concluding word I was summoned from my desk to see the uncovering of the statue of "Albert the Good," in the presence of his youthful son Prince Arthur. I shall not pause to detail the ceremony, nor dwell on this evidence of how thoroughly, even to its furthest verge, loyalty pervades our Queen's home islands; but I will give expression to my oft-recurring thought—What a testimony it is to the unrivalled beauty of the objects of the gardener's art, that they alone are selected as the best decorations on all festal occasions. Nay, more; no artist designs, or could design, an ornament without copying some vegetable form, and that no such ornament was ever suggested of which the type and the superior could not be gathered from among our plants. It is true that the yachts and even the very smallest Tenby fishing-boat is decorated with flags of bright and many colours; but how poor and monotonous are they compared to the



flower-decorated windows and arches which edge and span the street of Tenby this day! The climate, like that of the Channel Islands, is so tempered by the surrounding sea, and the gardens on the south-western slope of the limestone hills are so sheltered, that the Fuchsias, Hydrangeas, and other plants of similar nativity and habit are almost trees instead of being the potted pets they are in colder districts. Hence branches of these, with their floral honours thick upon them, have been sacrificed to do honour to this day with a liberality that would appal a more inland gardener.

This floral decoration carries me away to notes on the use in this neighbourhood of particular plants on particular days; and the first among those notes is of a custom—rude and barbarous, but now abandoned—for the men and boys on St. Stephen's day, to carry twigs of Holly, and to beat with them the bare arms of the women whom they could find thus unprotected! What could be the origin of this misuse of the evergreen which but the very previous day had been used to do honour to Christ's nativity? Was it intended by our forefathers to prefigure that that birth, though a subject of rejoicing, caused suffering to the jubilant as it did to the proto-martyr?

New Year's-day had, and still has, a more grateful custom; for boys and girls, bearing a cup of spring water, dip into it a sprig of evergreen, and sprinkle with it the inmates of the houses where they call. This may well be accepted as a gentle monition to purity during the newly-born year; but how shall we explain all the details of these verses they chaunt during the sprinkling?—

"Here we bring new water from the well so clear,  
For to worship God with, this happy new year;  
Sing levy dew, sing levy dew—the water and the wine.  
With seven bright gold wires, and bugles that do shine,  
Sing reign of the fair maid with gold upon her toe;  
Open you the west door, and turn the old year go;  
Sing reign of the fair maid with gold upon her chin;  
Open you the east door, and let the new year in."

There is no reason for doubting that "levy dew" is really the Welsh "*Llef i Dhuc*," a cry to God. The first "fair maid" we may accept as intending the last day of the old year, which departed amid the usual rejoicing over its last hour, or "gold upon her toe;" and the other "fair maid" we may similarly accept as the first day of the new year, the very commencement of which was welcomed, or had "gold upon her chin." "Turn the old year go," is a Welsh form of speech; for when the field-gate is opened for any animal to enter, that animal is "turned go," according to the farming man's vocabulary. But who will explain the gold wires and bugles?—G.

### SHADE, WHAT IS IT? AND THE THERMOMETER.

ALTHOUGH this question may appear very simple, yet there is a wide diversity of opinion as to what constitutes shade in the case on which the present article is intended to dwell; and even in the more general sense in which the term is used in gardening shade differs more or less in degree; at the same time its influence on vegetation entitles it to most careful attention. It is not, however, my intention to enter upon that part of the subject, but to speak of what is commonly called shade in describing the heat of any particular day. There is evidently much diversity of opinion on this point; consequently, the registers of those who take meteorological notes lose much of their value from their not being conducted according to one uniform rule. As matters of this kind have of late been considered of more importance than heretofore, and as some of the most eminent men in the kingdom have given their attention to meteorology, something like a uniform rule as to what constitutes shade, when this term is used in describing the heat of a summer day, ought to be settled by general consent. As we possess no other means of registering the various amounts of heat in our atmosphere than by instruments more or less correct, let us at least try to avoid giving a wrong figure by adopting a universal rule as to how and where that figure has to be denoted.

Taking for granted that thermometers are the only instruments for measuring the variations of heat in the atmosphere, where ought these instruments to be placed so as to simply give a true index of that heat? "In the shade," is generally the answer at once. But what is meant by shade puzzles many, and the different records of extreme heat given by those who now and then report in the public prints certainly indicate that the observations are taken under different circumstances.

Heat, unlike water, is not distributed alike in all places to which it has access; certainly its tendency is to rise upwards instead of to descend as the heavier fluid does, but even then it does so in waves that do not penetrate everywhere in the same degree, even though acting on one level. Many upstairs rooms that are lofty and allow of a large hourly influx of external air never become heated to the same degree as the air out of doors, but this is probably due to the walls and various articles of furniture abstracting heat from the atmosphere; and until they have acquired the same temperature as the external air (which doubtless requires longer than the twelve or fourteen hours' heat of our summer days) the atmosphere of the room must be colder.

When the earth has become to a certain degree warmed by the bright sunshine of preceding days, and the evenings probably seldom offer a lower temperature than 55°, we may look for the hottest day in the year somewhere between the 20th of June and 20th of July. Not that the period here stated always presents the highest temperature, for I have known this occur in May, and on one occasion in September, but such cases are unusual, the period above given being usually the warmest; and as comparison with the heat of former years is always interesting, those having the means usually endeavour to ascertain the degree of heat, and if their instruments be correct, and the mode of using them the same each year, the difference, if any, will be easily seen. It is, however, not so easy to compare notes with others who may take their observations under widely different circumstances, and, consequently, comparison in such a case is useless, for A perhaps keeps his thermometer in an upstairs window facing the north, where perhaps some overhanging trees assist in completing the shade and encourage the eddying wind to play on the instrument, reducing the reading much below what it ought to be; while B, anxious to have his readings correct, runs into much the same error by boxing his instrument up from almost all connection with the external air, giving it in fact a case all round or nearly so of some non-conducting material, and thereby preventing that access of external air which ought certainly to be allowed if anything like the true indication be wanted. C, again, places his instrument in the open, or I might almost say in the full sun, and, consequently, falls into an opposite error by recording too high a temperature, and seems surprised on looking at the published returns in the daily papers to find his district so much hotter than any other recorded. In fact, so vague is the term "shade" that unless some explanation be given of what is meant by it we must expect to grope in the dark. I therefore venture to give my views as to what I think we ought to regard as the day and night temperature, or in other words the maximum and minimum of the thermometer.

Assuming that the object is to ascertain the precise temperature of the external air where not acted upon by the direct rays of the sun, the least possible amount of shadow that intervenes between the sun and the instrument would seem to be all that is wanted. At the same time such intervening object ought to be of a non-conducting material, and for general application I know of nothing better than a plain timber post set perpendicularly in the ground in a perfectly open situation; this post ought to have a flat side to the north considerably wider than the instrument that is to hang against it on that side, whether horizontally or vertically, the former way being on the whole preferable. Against such a post, and say at 4 feet from the ground, hang up one of the best maximum registering thermometers, and about a foot from the ground you may hang up the minimum one in the same way; care being taken that nothing like shelter intervenes to prevent the cool air of the night acting upon this instrument. A more open exposure may be made if necessary for the latter, but this is sufficient for most purposes, and the convenience of having the two instruments together is an object when only ordinary observations are required. I prefer having the two instruments separate, as the double ones are so liable to become deranged, and when the maximum and minimum thermometers are separate there is no more trouble in taking notes of them than if only one were in use. Tolerably good instruments can now be had at a reasonable rate, although I by no means affirm that perfection has been arrived at; on the contrary, I would like to call the attention of makers of such instruments to the fact that bubbles of air or some other foreign fluid often pass into the quicksilver or spirit, and thereby render the reading incorrect. This misfortune is by no means confined to low-priced thermometers, for I have had two or three thermometers from a celebrated London firm which cost 2ls. each, and they

all went wrong in about a month, while a common one of simpler construction has been in use for some years. In fact I hope to see a great improvement in thermometers and other meteorological instruments, and until such is really the case, the public can hardly be expected to buy the expensive article when its merits are only in its outward adornment.

Notwithstanding the heat of the present season, the thermometer has not yet reached the maximum of 1856, 1857, and 1858, as will be seen by the figures below, which indicate the hottest days in each year, as taken in the manner described above:—

1854.	July 25th .....	thermometer	87°
1855.	June 29th .....	"	93
1856.	July 31st and August 1st .....	"	95
1857.	June 26th and 28th, and Aug. 23rd .....	"	95
1858.	June 15th and 16th .....	"	97
1859.	July 12th .....	"	92
1860.	July 2nd .....	"	78
1861.	August 12th .....	"	88
1862.	May 6th .....	"	86
1863.	August 9th .....	"	87
1864.	July 20th .....	"	87
1865.	June 21st and 23rd .....	"	92

It is somewhat remarkable, that the heat attained on the 21st and 23rd of June in the present year was not approached by 8° in any of the days before or after these dates, and up to the time I write, July 28th, the thermometer has only once reached 86°, and that was on the 15th of July; but a long period of dry hot weather may occur without any extreme being approached, and it is questionable whether an unusually hot day amongst others of medium character is beneficial. One of the most remarkable instances of this kind occurred on May 6th, 1862, which, as shown above, was the hottest that season. I may, however, remark, that the present season has presented a longer period without rain than any previous one, for none fell here (Staplehurst), for twenty-six consecutive days in June. The rainfall, however, of the six months ending the 30th of that month is a full average. The early months were wet, and during July nearly 3½ inches of rain have fallen.—J. ROBSON.

### MILDEW ON ROSES.

JUDGING from what I have seen, as well as from complaints I have heard from others, this pest to Rose-growers seems to be unusually prevalent this season; and from recent inquiries in THE JOURNAL OF HORTICULTURE I conclude that some information on the subject will be acceptable to many of your readers. Though I may not be able to advance anything in my present communication that is not known to most Rose-growers of experience, I may be able to convey some useful information to such of your readers as are, like myself, beginners in this most pleasurable branch of floriculture, by selecting and condensing what has been advanced by some of our best writers and most experienced Rose-growers.

With regard to the cause of this disease, we find that, as with diseases affecting the human frame, "doctors sometimes disagree;" and the fact seems to be that, as to this part of the subject, we are very much in want of certain and reliable information. Mr. William Paul, in his "Rose Garden," does not venture to allude to any positive cause of the disease, but says negatively, page 118, "If the situation (of the rosery) be airy and sunny, there is little to fear on account of this disease." Mr. Cranston, in his "Cultural Directions for the Rose," quotes the late Mr. Knight as saying, "The secondary and immediate cause of this disease has long appeared to me to be the want of sufficient moisture from the soil, and excess of humidity in the air, particularly if the plants be exposed to a temperature below that to which they have been accustomed." This, I conclude, refers to Roses in pots, or newly planted out from a frame or some such sheltered situation. An anonymous writer in your Journal of March 28th, page 243, says, "Mildew is seen under extremely different circumstances, but I think is generally caused by defective root-action, the roots not being able to supply the sap fast enough to the leaves, or sometimes from the leaves being in a higher temperature than the roots; . . . . . and it would seem as though mildew, attacking healthy young Rose shoots exposed to sun and air in the open ground, must differ very much from the mildew which attacks plants in cold damp houses in the winter, and yet I am still inclined to think the cause is much the same." The Rev. Mr. Radclyffe, perhaps our highest authority on Rose-culture, seems, indirectly at least, to ascribe its prevalence to extremely

high culture, or, in other words, to gross feeding; for in an article on the Manetti stock he says (see JOURNAL OF HORTICULTURE for April 22nd, 1862, page 63), "It cannot be denied that Manetti Roses, as a class, are more subject to white mildew than Briar Roses, and that the higher you cultivate the more you will be subject to it." To this latter remark I can fully subscribe; for while I confess myself unable to assign any certain cause of the existence of the disease, I believe it may always be developed by high or gross feeding. The soil in which I cultivate my Roses consists to a great extent of decayed turf from an old pasture mixed with the soil on the spot, which is moderately heavy and well drained; it is also well manured with decayed stable dung, and I find that the appearance of mildew always follows a liberal application of strong liquid manure. This consists of house-sewage, by which I mean the whole liquid refuse from the house, consisting of kitchen and chamber washings, soapsuds, &c. This, in wet weather, is diluted with an equal quantity of pure water, and in continued dry weather with double that quantity, and is applied in the proportion of a gallon to each tree on an average of once a fortnight from May to September.

Whatever may be the cause of mildew, as regards its existence in the rosery it is, I believe, developed or increased very much by circumstances over which we have no control—I mean, by atmospheric causes, as the existence of long-continued seasons of drought, or of dull, cloudy, wet weather. But while we can, perhaps, do little to prevent the existence of the evil altogether, we may do much to remedy it where it does exist. The remedies recommended for this disease are indeed manifold, and one or other within the reach of every Rose-grower. Mr. W. Paul, in the "Rose Garden," page 118, says, "Dusting the leaves with sulphur is the best remedy. Watering with a solution of nitre is also said to destroy it." Mr. Rivers, in the "Rose Amateur's Guide," recommends the same remedy—"sprinkling with sulphur." Both these instances, however, refer to Roses in pots. Mr. Cranston, in his "Cultural Directions for the Rose," recommends the same remedy, giving the preference to black sulphur over yellow; but adds, "Where sulphur has failed to arrest its progress, Gishurst compound has been applied, and with wonderfully good effect. The quantity used has been from 2½ to 3 ozs. to the gallon of water. The plants affected are syringed or well wetted with the mixture, and if the shoots are at all tender they must be syringed over with clear water in a few hours afterwards, otherwise the young buds which are formed at the ends of the shoots may be destroyed; also, when allowed to dry upon the foliage it has a disagreeable appearance. One or two applications in most instances will be sufficient; but when the disease has been allowed to establish itself it must be applied weekly until it is cured." The Rev. W. F. Radclyffe, in his lecture on Roses, delivered before the Royal Horticultural Society (see JOURNAL OF HORTICULTURE of July 26th, 1864, page 67), gives, as the most effectual remedy known to him, "2 ozs. of blue vitriol, dissolved in a little hot water, and then mixed with a stable-bucket of cold water, and poured from a watering-pot with the top (rose?) on over the leaves." Your correspondent "X. Y. Z.," before referred to, writing in the Journal of March 28th, says, "There is no more certain cure for mildew on Roses in summer than a thorough soaking of water at a temperature of 80° or 90°." "UPWARDS AND ONWARDS," I think, speaks of liquid manure heated to 140°; and in your answers to correspondents in the Journal of July 18th, you recommend syringing the plants with lime water to destroy the fungus, and then to water the roots copiously, mulching the surface, and to continue watering abundantly during dry weather; and you add that "weak liquid manure once a-week will benefit the trees."

Here, then, we have plenty of remedies to choose from. The two which I have tried myself are the Gishurst compound and the solution of blue vitriol, and I can answer for the efficacy of both. Of the two I give the preference to the Gishurst compound, and this I never use stronger than 2 ozs. to the gallon. My reason for the preference is, that while it is as efficacious as the blue vitriol, I find it does not mark the foliage so much. Indeed I find in applying the latter that any Roses wholly or partly expanded, but especially those which are white or light-coloured, become so covered with black spots that they have to be destroyed. The foliage also becomes spotted, though not to such an extent. In applying the Gishurst compound I mix it, if possible, two days or more before using it, and, choosing a dull day, syringe the plants about the middle of the day. I then syringe them over, about six or seven o'clock the same



evening, with clean water, which removes any deposit of the Gishurst compound, and leaves the foliage but little marked by the deposit. I am convinced that any remedy to be at all effectual should be applied immediately a trace of the disease is discovered. The old saying is emphatically true in this case—"A stitch in time saves nine;" and not only must some remedy be applied at once, but it must also be persevered in from time to time as the disease re-appears during the season. The remedies recommended are inexpensive and easy of application, and he who does not make use of them in case of their being required does not deserve to possess a good collection of the queen of flowers.

My remarks, although I fear already too long, will not be complete without mentioning what sorts I have found most subject to mildew. Out of a collection of about one hundred different sorts, chiefly Hybrid Perpetuals, I find none so subject to the pest with me as *Géant des Batailles*: I have three or four plants of it in different situations all on *Manetti*, and they suffer more than any others. *Blairi No. 2* and *Prince Camille de Rohan* are also much infected with the pest; but in these cases I am not sure that it may not be something in the situation, rather than any predisposition to this disease, that makes them worse than others. I must not close this communication without expressing a hope that the readers of it will contribute so far as they can to the elucidation of the subject discussed, especially by furnishing information as to the prevalence of the Rose mildew in their own locality, the remedies used for its removal, and the kinds of Roses most subject to the disease. Such information I cannot but think will be most interesting and valuable to many of your readers, and especially to—A COUNTRY CURATE.

### PLANTS FOR ROOMS.

THE atmosphere of halls and ante-rooms is so variable—sometimes close and stifling, often subject to draughts, and always much drier than plant-houses generally—that plants cannot be placed in such situations without sustaining a certain amount of injury, especially as there is usually a great deficiency of light. Drawing and sitting-rooms, likewise, are but ill-adapted for plants; for, though there is not so much danger of currents of air, the air is drier, the rooms are equally dark, and often so warm, especially in winter, that the plants begin to grow, become unhealthy, and flower badly. However desirable plants may be for the decoration of rooms, I can only regard growing them for this purpose as preventing the production of fine specimens, and taxing the patience and energies of the gardener to the utmost, particularly if he is at all proud of his plants, and grows them year after year from cuttings up to handsome specimens. It is, indeed, rare to meet with an establishment remarkable for its specimens, where plants are largely employed for in-door decoration. There is, notwithstanding, an increased demand for decorative plants for rooms, that demand being generally greater where there is no conservatory or greenhouse that can be entered or seen from the mansion.

It is by no means unusual for plants to be most in request where the conveniences for growing them are none of the best. Many structures are so ill-contrived for the growth of plants that an exhibitor would not know how to proceed in order to grow a plant worth looking at. Justice compels me to note the impracticability of growing fine specimens where the means are limited to vineries and stoves, the proper occupants of which require different treatment from the plants. More credit is due where good Grapes are grown in vineries in which every nook and corner is occupied with plants, than where every structure is used for its proper purpose; for plants and Vines may be grown well together at certain times, whilst at others the treatment which will suit one will not suit the other, and in the endeavour to grow both neither obtain justice. There may be no lack of skill, perseverance, and desire to make the most of the means at command, and yet the plants will never be so fine as those grown in light and proper plant-houses. Fruit-houses are the worst of plant-houses, for their occupants are so different from plants in their requirements that the cultivator, seeing that he can grow only one thing well, tries to do that, and makes the other a secondary consideration. Take, for instance, plants in a vinery. Up to May the plants may be grown without any great detriment, either to themselves or the Vines, but by that time the Vines will shade the roof too much for flowering-plants, which will,

consequently, be drawn up weak, producing plenty of leaves but few flowers. The plants must, therefore, be moved to more suitable quarters, and their place occupied by others requiring a certain amount of shade. After a time the Grapes will change colour, and the plants must then suffer, or the Grapes be defective in their colouring. I am perfectly aware that sometimes, and under certain conditions, plants can be grown fairly in vineries, and yet Grapes of average excellence be produced; but my experience leads me to doubt whether excellence in fruit and plants can be attained in the same structures. To have fine plants structures entirely devoted to them are necessary, and to obtain fine fruit nothing should interfere with it. Whatever, therefore, is grown in vineries, in addition to the Vines, should not remain there a day after they interfere with the Grapes, or are interfered with. I will assume that the correspondent for whom these remarks are chiefly intended wishes to have Grapes of average merit in addition to plants, and, bearing this in mind, I will proceed with the answer, led only by my own experience of plants in vineries where Grapes are the principal object, and of those plants suitable for or which have been employed for room decoration. I confess that I have no knowledge of growing plants in vineries, making the Vines a secondary consideration. The correspondent to whom I reply "has a stove and vineries, but no greenhouse." I will assume that he has two vineries, and pits or frames.

In JANUARY we may expect in bloom from the stove—*Eranthemum pulchellum*, and *E. strictum*; *Poinsettia pulcherrima*; *Euphorbia jacquiniiflora*; *Justicia speciosa*; *Begonias nitida*, *insignis*, *lucida*, and some of the variegated kinds, as *B. grandis*, and *Marshalli*; *Torenia pulcherrima*; *Gardenia citriodora*; *Epiphyllum truncatum* vars. *magnificum*, *purpureum*, *salmoneum*, *cruentum*, and *violaceum*; *Thyracanthus rutilans*; *Ardisia crenulata*, for its red berries, and its white-and-yellow-berried varieties; *Aphelandra aurantiaca*; *Hebeclinium atrovirens*, and *H. ianthemum*; *Gesnera zebrina splendens*, and *G. cinnabarina splendens*. From vineries—*Camellias*; *Primulas*; *Cyclamens* com., *Atkinsi*, *persicum* vars.; *Coronilla glauca*; *Daphne odorata rubra*, and its sub-variety *alba*; *Acacias hybrida*, *rotundifolia*, *oleifolia elegans*, and *longiflora magnifica*; and in addition *Snowdrops*, *Scilla brevifolia*, and *S. bifolia*; last, but not least, *Lilies of the Valley* brought into flower in a cool part of the stove, along with the two preceding, all on a shelf near the glass, and from the same a few *Hyacinths*, *Narcissus*, and *Crocus*, and a few pots of *Tulips*; nor must I omit *Andromeda floribunda*, and *Laurustinus* on short stems, that come from the vineries without any forcing.

In this month it is to be expected that one of the vineries will be thoroughly cleaned (this we shall term the early vinery), and forcing commenced so as to have Grapes in June. Such being the case, we may introduce plants of the dwarf *Rhododendrons*, as *R. caucasicum album*, *danicum atrovirens*, *clivatum*, *gemmiferum*, varieties of *Nobleanum*, and other hybrids, nice dwarf plants well set with bloom-buds; common sweet-scented hardy *Azalea*; *Kalmia glauca* and *latifolia*; *Deutzia gracilis*; *Dielytra spectabilis*; *Weigela rosea*; *Sweet Briar*; *Roses* (assigning them the lightest and airiest situation); also *Lilies of the Valley*, *Hyacinths*, *Tulips*, *Narcissus*, *Crocus*, *Scillas*, and a few pots of tree and Neapolitan *Violets*. Plants of the old *Hydrangea* will bloom the earlier if afforded a little heat, and it is one of the best plants for rooms. To the above we may add some of the most forward *Pelargoniums*, *Cinerarias*, *Calceolarias*, a few *Fuchsias*, *Salvia splendens*, varieties of *Azalea indica*, especially *amena*, and a few pots of *Lilium lancifolium speciosum*. A few *Gloxinias* and *Achimenes* may be potted and introduced into the stove, and also a few more bulbs to keep up a succession until those in the early vinery come in. If there is convenience, a bed of leaves or tan may be made in the early vinery, and this will be useful for the deciduous plants introduced for forcing, of which I find that I have omitted *Prunus triloba flore pleno*, *Rhodora canadensis*, standard and dwarf *Ribes*, and *Lilaes*, and the double-blossomed *Peach*; also, *Daphne cneorum* and *Berberis Darwinii*, which are evergreens. It will also be of service for forwarding *Begonias Evansiana*, *manicata*, *coccinea*, *Prestoniensis superba*, *Saundersi*, and *Martiniana*, and a few of the variegated-leaved varieties.

FEBRUARY.—In addition to the plants already mentioned for January, and they may be expected more or less up to March and April, from vineries we may expect *Solanum capsicastrum*, for its red berries all the winter; *Magnolia fuscata*; *Lachenalias quadricolor*, *pustulata*; *Oxalis fulgida*, and *O. tricolor*; *Linum trigynum*; *Hovea Celsi*; *Monochaetum ensiferum*;

*Daphne Fortuni*; *Cyclamens Atkinsi* and *persicum*, in great variety; *Mignonette*; and towards the end of the month from the early vinery, *Epiphyllum Russellianum*; *Cytisus Atleeana*, *racemosa elegans*, and *racemosa superba*; *Acacia armata*, and *Drummondii*, and some of the forced plants. The stove may furnish *Franciscana confertiflora*, and *eximia*; *Gardenia Fortuni* and *florida*; *Jasminum gracile*; *Centradenia grandiflora*, and *rosea*; *Rogiera cordata*; *Eucharis amazonica*; *Pancratium speciosum*; *Imantophyllum miniatum*; *Pycnostachys urticifolia*; *Amaryllis aulica*, vars. *crocata*, *Johnsoni pnceox*; *Echmea fulgens*, and *Stenogastera concinna*.

Cuttings of *Poinsettia* and *Euphorbia* should be inserted, and of *Luculia gratissima* in the stove, for early blooming. Start more *Achimenes* and *Gloxinias*, also *Gesneras* of sorts, especially *gloxiniiflora*, *splendens*, *zebrina splendens*, and *Donckelaari*; and *Caladiums* to be potted forthwith. Cuttings of all winter-blooming plants should be inserted if the stock is short, and also to obtain small plants. A few cuttings of *Coleus Verschaffeltii* put in now will prove useful. Pot *Tuberose*s, and place in the early vinery in a little bottom heat. *Amaryllis formosissima* with others of the *Amaryllids* now showing for bloom, will do admirably plunged in the bed of the early vinery. Pot a few Ferns, they will come in useful through the summer; and some *Lycopods*, *Otaheite Orange*, *Azaleas*, *Rhododendrons*, *Weigela rosea*, *Deutzias*, *Dielytra spectabilis*, and more bulbs to be introduced. *Datura humilis* and *chloanthia* (young plants kept over the winter), to be potted, and encouraged. Sow *Celosia pyramidalis*, *Cockscomb*, and *Globe Amaranths*, also *Amaranthus bicolor* and *tricolor* towards the end of the month, or early in next.

**MARCA.**—From the early vinery many of the plants placed there to force will be coming into bloom, and these will in themselves be amply sufficient for frequent changes of the plants in the rooms during this and next month. We may, in addition, calculate on *Tropaeolum tricolor*, *Jarratti*, and *brachyceras*, which are handsome on trellises, and so is *T. azureum*; also, *Lithospermum frutescens*; *Acacias graudis*, *ericarpa*, and *juniperina*; and *Chorozeas*. *Kennedys*, too, bloom finely on trellises at this season, and we may expect some this month from cool houses. The stove will afford a few forced plants, and the other winter-flowering plants will come in or continue in bloom until this period, it being understood that the stove is not so much occupied with summer as with winter-blooming plants.

All plants coming from the rooms should be again placed in the structure they were taken from. If from the stove, they should be rested for about a month, and may then be cut in, and have the pots plunged in the early vinery, which will set them going. *Camellias* and *Azaleas* done blooming to be placed in the early vinery to make wood for next year's early blooming, which, as regards the first, will, in the current year, occur in October and onwards. The first lot of *Gloxinias*, *Achimenes*, and *Gesneras* will be forward, and be placed in their blooming-pots, more being introduced for succession. Pot variegated *Begonias* and the better kinds of hardy Ferns; they are charming for in-door decoration in summer. A few more plants for forcing may be introduced to fill up blanks in the early vinery. Sow *Primulas* and *Cinerarias* for an early bloom. See that *Aphelandra cristata*, *Porteana*, *Leopoldi*, and other winter or autumn-blooming plants are cut in, and cuttings made of all winter-blooming plants if still delayed. Pot those previously struck, and grow them on; many of them will do well in the early vinery. Pot more *Fuchsias*, and put in cuttings of the early plants for autumn blooming. *Impatiens Jerdonia* is a good stove plant for autumn work; plants now potted and grown in the stove will be found useful. Select a few of the better kinds of bedding plants, as the different variegated and *Zonale Geraniums*, and especially *Nosegays*; also *Verbenas*, *Petunias*, &c., potting and growing them on in the cool vinery. They will be useful when the *Pelargoniums* are over. A few plants of *Pinks* and *Carnations*, potted now, will, though they come in little earlier than those in the open ground, be none the less sweet in vases in the house. *Epaerises* to be cut and placed in a cold frame. Cuttings of *Heliotrope*, to furnish plants for winter and spring blooming, to be inserted forthwith; also of tree *Carnations*. Sow more *Cockscombs*, *Celosia pyramidalis*, the first *Balsams*, and *Thunbergia alata*, for training to sticks in the form of pyramids, or any other shape. They will do now in the early vinery. Encourage plants of *Sericographis Ghiesbreghtiana* in a cool house. Let them grow freely until June; then stop the shoots, repot, and grow on until October; then place in the stove. They will

bloom in November. *Fuchsia serrulata* and its varieties *floribunda* and *alba* are valuable winter-blooming plants. Cuttings put in now, in a little heat, soon strike root; grow on until July, place out of doors, then take up in September, and place in the early vinery, which will by that time be cool enough for anything. Sow *Mignonette* in pots, for autumn blooming, in a cold frame; it will require to be potted when the plants are large enough to handle, and grown on in a frame until June, to be then placed outside in an open, but not very sunny, place. Remove to the frame in September, keeping stopped and potted through the summer as the plants grow. *Rhodanthe Manglesii* and *Acroclinium roseum*, are nice Everlastings for pots; seed may now be sown in a little heat. *Cypripedium insignis* and *venustum* are of the best of winter-flowering plants; plants of them should be potted and encouraged in the stove or vinery now at work. The old *Plajus grandiflorus* is a glorious plant for blooming in early spring; it should have sweet soil, plenty of drainage, and a place in the stove to make growth, with abundance of water and moisture. The very best of room-plants, *Richardia athiopica*, should be potted, and increased, if practicable, by dividing the roots. It does well in a cool vinery. Cuttings of *Chrysanthemums* to be put in; they make nice plants for autumn. *Inga pulcherrima* to be cut-in, and grown in a frame; endeavour to have the shoots well ripened before or by autumn. It will require potting after it breaks. *Hoitzia coccinea* to be cut-in, and potted after the new growths are an inch long; it is a stove plant.—G. ABBEY.

(To be continued.)

### NORTHWICH GOOSEBERRY SHOW.

THE following are the weights of the prize berries at the Show held at the Angel Inn, Northwich, Cheshire, on July 29th.

			dwt.	grs.
Thos. Lanceley ..	Premium prize ..	London .....	28	14
Joseph Jones ..	Steward's prize ..	London .....	28	11
John Johnson ..	ditto ..	Leveller .....	26	0
Chas. Leicester ..	ditto ..	Surprise .....	23	4
Joseph Wynne ..	ditto ..	Antagonist .....	24	20
F. Jameson ..	ditto ..	Dan's Mistake .....	24	20
George Waller ..	ditto ..	Stockwell .....	21	10
Thomas Ball ..	ditto ..	Careless .....	22	10

#### RED CLASS.

1st C. Leicester ..	Ploughboy .....	27	20
2nd G. Wilkinson ..	London .....	26	12
3rd C. Leicester ..	Dan's Mistake .....	25	12
4th T. Lanceley ..	Clayton .....	25	0
5th J. Wynne ..	Seedling Macaroni ..	24	20
6th F. Jameson ..	Duke of Sutherland ..	23	18
7th Thomas Ball ..	Flixtonia .....	23	6
8th F. Jameson ..	Beauty .....	22	12
9th T. Nicholls ..	Lord Liverpool .....	22	0
10th Joseph Jones ..	Slaughterman .....	22	0

#### YELLOW CLASS.

1st T. Lanceley ..	Leander .....	24	18
2nd John Johnson ..	Leveller .....	24	15
3rd T. Lanceley ..	Catharina .....	24	0
4th C. Leicester ..	High Sheriff .....	23	8
5th J. Wynne ..	Cramp .....	23	4
6th T. Lanceley ..	Unknown .....	22	9
7th J. Johnson ..	Drill .....	22	5
8th J. Wynne ..	Oldham .....	22	0
9th C. Leicester ..	Criterion .....	21	17
10th T. Lanceley ..	Oakmere .....	21	12

#### GREEN CLASS.

1st T. Lanceley ..	Plunder .....	25	9
2nd T. Lanceley ..	Shiner .....	24	17
3rd J. Johnson ..	Telegraph .....	23	6
4th T. Lanceley ..	Stockwell .....	22	12
5th T. Lanceley ..	Thmaper .....	21	12
6th C. Leicester ..	Sir G. Brown .....	21	0
7th F. Jameson ..	Queen Victoria .....	20	22
8th F. Jameson ..	Green Wonderful ..	20	17
9th Joseph Jones ..	Seedling .....	20	15
10th G. Waller ..	London City .....	20	12

#### WHITE CLASS.

1st J. Wynne ..	Antagonist .....	21	20
2nd T. Lanceley ..	Hero of the Nile .....	24	14
3rd T. Lanceley ..	Overseer .....	23	12
4th G. Wilkinson ..	Careless .....	22	10
5th J. Wynne ..	Snowdrop .....	21	20
6th C. Leicester ..	Postman .....	21	19
7th G. Waller ..	Queen of the West ..	21	12
8th C. Leicester ..	King of Trumps .....	21	10
9th J. Jones ..	Lady Leicester .....	20	8
10th G. Wilkinson ..	Jenny Lind .....	20	2



## GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 3.

LEAVING Siena by railway for Ficulle, we passed through many miles of country so desert-like, so bleak and bare of vegetation, that it looked as if just emerging from a second deluge which had left but few of the inhabitants, and they with the marks of sin and horror still upon their brow. We rejoiced when the railway journey gave place to a comfortable carriage drawn by four horses and two white bullocks with large, gazelle-like eyes, and we were once more ascending a mountain's steep side, where we could revel in nature with the breath of Violets scenting the air around us. We saw few habitations, but here and there peasant women in scarlet hoods, distaff in hand, were carding what seemed to be flax, as they minded flocks of sheep and pigs, wandering amidst the flowery wilderness of Myrtle and white Ericas. On this mountain I saw, for the first time in Italy, the *Pteris aquilina*. I also found *Polystichum angulare* and *Asplenium trichomanes*. I looked in vain for some form or variety unknown to me; and yet I had plenty of time to look, for we were upwards of five hours driving the twenty-one miles that divided the Ficulle station from Orvieto, which appeared before us on its grand elevation of rock, like the huge battlements of some giant castle; now close to us, now far away, as we wound round and round the glorious hill. As we entered the town, daylight faded, and the dimly-lighted houses showed us parties of men drinking at long tables such as one sees in Dutch pictures.

The next day was market-day, and the streets were filled with parties of peasants, gaily dressed in various costumes, driving in mules laden with wood and other commodities. The peasant women wore many-coloured and richly-embroidered stays, with white or coloured chemisettes and sleeves; the petticoat was short, and of some striped material; some wore on their heads flat towels, folded square, and others red hoods; while the men were attired in velvet jackets, made very fancifully, knee-breeches, bright stockings, and steeple-crowned hats. The bright and varied streets were a fitting introduction to the wonderful cathedral, the façade of which is a mass of richly inlaid mosaics, and basso-reliefs in white marble or alabaster; these latter were in compartments, each relating some Bible story. The interior is rich with treasures, amongst them some beautiful frescoes of Fra Angelico's. All the pictures and frescoes were photographed, and the priests sell copies of them in the cathedral, before the very altars, where a short time before the mass was celebrated. It is a long time before a Protestant travelling in a Roman catholic country can understand what is considered sacred in their churches. Not the church itself, for it is desecrated in every way—not the altars, for no knee bends before an empty shrine. As far as I have been able to break through the outer crust of much seeming irreverence, and to look beneath the surface, I should say that respect is alone paid to the blessed Sacrament and to statues or, so-called, miraculous pictures.

We left Orvieto for Viterbo on the 14th of March, driving through a very cold hailstorm. On our way we found the *Anemone appennina* (the only wild specimen I have ever met with), *Scilla obtusifolia*, Violets of several shades of colour, *Pteris aquilina*, *Polypodium vulgare*, *Adiantum nigrum*, *Polystichum angulare*, *Asplenium trichomanes*, *Ceterach*, &c.

The drive had but little of beauty to recommend it, though here and there a lovely scene of lake and tree, mountain and sky, would call forth an exclamation of delight; but the pervading atmosphere was wretchedness. The cottages—as I write the word, the dear whitewashed cottages of England contrast themselves with the miserable huts I saw on this route—huts in which no chimney was visible, no outlet for the smoke of the scant fire, save the hole of the unglazed window, or the door, from which a herd of half-naked children rushed at the carriage wailing piteously. I was dividing some bread amongst a group of three of these beggars—one a little child of three years old—there was but bread enough for two, the little child saw this at a glance, and gave a cry of such wild terror and hunger, that it pierced my very heart. Is there any cry on earth like that of a little child for bread? Its intense pleadingness haunted me into Viterbo.

I shiver when I think of Viterbo, and of the scowling handsome faces of its people, that seemed to demand of me as I walked along, "Your money or your life." "Of twenty brigands taken in the last two years," said a friend to me, "seventeen were from Viterbo." I had read of brigands all my life, but now I was, as it were, face to face with them, for

the road from Viterbo to Rome is a part of their most convenient hunting-ground, its numerous windings and abrupt turnings giving ample opportunity for concealment and escape. Whether we should meet the brigands or whether we should escape them; who should be the spokesman of the occasion; who would give up jewels, and who would hide them, were the questions to be decided while pressing the wild-flower specimens or encouraging wet logs of wood to give a friendly blaze.

By seven o'clock on March 15th we left Viterbo by a dreary ascent up steep hills covered with snow, protected at intervals by gens d'armes, who looked so lonely and miserable in their wretched huts that I fancied a brigand's friendly greeting would have been better than none. We lunched at Monterose. The inn is worth a visit on its own account. From a courtyard, filled with horses and carriages, you ascend a broad flight of dirty stone steps, and putting aside a dingy cotton curtain at the top, you find yourself in a large chamber, with a wide open fireplace at the end, and several dining-tables spread around. Congregated in this chamber is a miscellaneous company of wayfarers devouring as best they can tough cocks and hens, accompanied to the death by a band of fleas that hop about without ceremony or constraint. Different parties of travellers keep putting aside the curtain and entering on the scene, like players on a stage, save that the acting is to the very life. There is the Englishman, silent and reserved, melting, if ever he does melt, under a smile of protest, as though he should say, "Take notice, I give way under the exigencies of travel;" there is the American loudly "guessing" and "calculating" as only Americans can; there is—but no, I will not draw on my imagination, for I saw only English and Americans at Monterose. "I guess," said one, *en route* from Rome, "you'll find the Eternal City about as unpleasant for climate as any place in the world; fix it how you will, you must always wear two coats, and then I calculate you'll have bronchitis if you walk in the shade, and fever if you walk in the sun." "Where then," I asked, "is the 'unchanging blue' of the Roman sky?" "Well," was the reply, "I guess you'll about have left that at Torquay."

Not being able to eat the chickens, and wishing to escape being eaten myself, I set off to walk in advance of the carriage. The keen piercing wind came raving to meet me: the peasants, clothed in sheep skins and goat skins, looked out at me from miserable huts, roofed only with mud and leaves; there were very few wild flowers, only here and there a straggling Rose, doing its cheerful best to adorn the rough masonry of the bridges, which crossed the swamp-like road. On every side there appeared evidences of poverty, degradation, and misery. Hanging in festoons about one old bridge I found what I believed—from its long tendril-like branches of dark shining leaves, and clusters of pointed buds—to be the Banksian Rose: this seemed the more likely, as I afterwards found the Banksian growing all but wild in the hedges about Florence and Rome. Entering Rome by this route, I can imagine nothing more desolate: there were few crosses, and very few churches. "Verily," said I, "the shoemaker's children are the worst shod."

Entering Rome! Can any one enter Rome as they enter any other place on earth? What is it that gives to every traveller Rome-wards that intensity of anticipation that keeps the eye straining on the far distance for the first speck on the horizon that conveys the certainty of Rome? The air around one seems to vibrate to the echo of the old heroic deeds that make the schoolboy's veins tingle with enthusiasm; the wind that blows upon one's brow seems yet wailing with the last cry of agony wrung from the martyr's heart; your whole intelligence is wrought to the highest point as you wait in almost breathless silence for the first cry of—Rome! In a few minutes a cry came, but it was not Rome: only a poor man lying by the wayside, dead, in a pool of blood. Whether he had been gored to death by one of the wild bullocks that abound in the Campagna, or whether he had been murdered, we never discovered: the prelude to our entrance to Rome, as it has been to that of thousands, was blood. A few minutes more and another cry came, but it was not Rome, it was—St. Peter's!

Yes, there was St. Peter's! and forthwith the old grand thoughts of ancient Rome melted away, and in their place came the Triple Crown. How would it look near at hand? Were the jewels that adorned it diamonds, or only glittering paste? There, however, is St. Peter's, square, and squat, and round about the dome; there is the Vatican, looking, with its many rows of square windows, like Millbank Penitentiary; there is the Tiber, trailing its thick clammy waters along, not yellow nor yet brown, but very uncomfortable-looking in their



greyish brownish garb; there is the Porta del Popolo, through which a stream of fair-faced men and women are passing from the daily evening service of the English Church, held *outside* the walls; and here is—Rome.—FELIX-FEMINA.

### CLOTH OF GOLD GERANIUM—SPARKLER CALCEOLARIA.

"R. F." has told us how Cloth of Gold Geranium stands with him, and solicits information as to the success or the contrary of others. I have two circular beds of this variety edged with green foliage; the plants were all young and healthy when planted out, now, all that is left of them is about half a dozen leaves on each about the size of a shilling, and I have during the last week seen several almost as badly off as ourselves. I may add that the beds are fully exposed to sunshine, but sheltered from all wind except the south-west. Cloth of Gold will do very well in favoured situations in a soil composed of fine mellow loam and peat. Such, at least, is my experience.

I would like to say a word about Calceolaria Sparkler. It has the best habit of any bedding Calceolaria I have ever seen. Neither sun, wind, nor rain, has any effect upon it. Some small plants in thumb-pots were planted out, and are doing remarkably well. They are thoroughly shrubby; the colour is scarlet brown, with bright yellow caps. As so many of the bedding Calceolarias now grown have so much of the herbaceous strain in their constitution, I should like to hear how Sparkler is liked, and to be informed of any other variety of the same habit.

In my letter on softening hard water, page 71, the word "Pears" in the third and fourth line from the bottom should read "plants."—F. FLITTOX.

### VISITS TO GARDENS PUBLIC AND PRIVATE.

M. LOUIS VAN HOUTTE'S, GHENT,\* BELGIUM.

THE travellers who enter Ghent for the first time are no doubt moved, as in all such cases, by very various feelings. To one man it is the city of commerce, of linens and of calicoes, stuffs and cloths; and its tall chimnies and large factories are indications that his journey will not be in vain. To another man it is the city dear to him in its history, its achievements, and its sufferings—the city of Jacques and Philip Van Artevelde; the scene of Alba's brutalities, and of Egmont and Horn's sorrows and death; the city of turbulent burghers and sturdy citizens, whose ideas of liberty were too often that of some of our modern friends—full liberty and thought, provided you agree with them. They rejoice to see the towers their heroes gazed on, and the places where they met and harangued their fellow citizens, places from which Henry Taylor drew his inspiration in his noble poem of "Philip Van Artevelde." To the horticulturist it is the city of nurserymen *par excellence*; the city of Camellias and Azaleas; the home of Van Houtte, and Verschaffelt, and Van Geert, and the many others who have made a name for themselves throughout Europe and the world at large. Let me say that when I entered it it was with mingled feelings. In a former run through Belgium thirty years ago I had been obliged to pass Ghent by. There were no railways then, and I was hurrying home; but I had still enough of feeling to be moved by the story of Ghent, and its eventful histories and noble-hearted men; and though I had no calicoes to buy and cotton to sell, yet I did hope to see as a horticulturist much that might gratify my tastes and satisfy my curiosity; and it is a little of what I then saw that I now wish to lay before the readers of THE JOURNAL OF HORTICULTURE. I labour under one great disadvantage, for not long ago one of its Editors recorded his impressions of the same place; but as we view oftentimes in the same pursuit things from a different stand-point, I may perhaps notice some new point, or the same in a different manner, so as to give some fresh notions.

I found M. Van Houtte crippled in body by an attack of gout, but active enough in mind, and, as far as a brief interview would enable me to form an opinion, fully bearing out

the character given him by "G." His establishment is a vast one; but it must be borne in mind that it is not in a pecuniary point of view resting on his shoulders. The royal arms over the gateway are emblematic, not, as with us, that the establishment serves royalty, but that royalty serves it. In what way I do not exactly know; but it is, I was informed, considered as a Government establishment, and not at all corresponding to those great establishments in our own land which rest solely on the resources of the person or family whose name they bear. In my tour round the garden I could not but be struck with the sandy and apparently barren character of the soil. One would hardly imagine how plants could grow in it; yet by careful management not only bulbs, but Conifers, Roses, and the like seemed to be doing well.

The greenhouses are very numerous, and, generally speaking, low-pitched and very dark, the importance of keeping off the glaring sun in summer leading to the necessity of great shading. The quantity of glass is enormous, and the stock propagated and contained in them very large. Thus, there were at least 40,000 Camellias of various sizes, and of all the valuable kinds, as well as the older sorts. 8000 Imbricata and 7000 Fimbriata will show on which kinds the run is mainly made for decorative purposes; but there were quantities of such fine kinds as Lavinia Maggi, Anguste Desfosses, and Duchesse de Berri, and I must say in a very excellent state of cleanliness and health, affording a remarkable contrast to the French nurseries in this respect. The manner in which the various markets were catered for is somewhat curious. Here were large quantities of Pandanus, Dracenas, Cycas, and Palms of various kinds: most of these were for the Paris market, where, as every one knows, so much is done in the way of decorating houses, hotels, &c., with living plants—a custom which one would be glad to see adopted more in London. How much the dull character of the entrances even of such houses as the Langham and Grosvenor Hotels would be taken away if the use of these plants were more general. I was surprised to see at the "Mirabeau" the quantity that was purchased from day to day, and I cannot but think the same expenditure might be profitably made with us. To one house in Paris alone 1200 Pandanus had been sent during the last year. The Cycads found their way many of them to Saxony, where two, three, four, five, and sometimes ten and fifteen franes are given for single leaves of Cycas revoluta for carrying in funeral processions, where it seems to be the custom so to use them, and to strew the churches with branches of the common Yew. The *chef* informed me that these ornamental plants were more looked for in England now than formerly. Then, again, Gloxinias, Tydas, and kindred plants were grown in very large quantities, upwards of 20,000 Gloxinias alone being grown; and Amaryllids in large numbers, upwards of 60,000 bulbs in various stages of growth being in one quarter of the ground. This bulb ought surely to be more generally grown than it is, its showy character and easy culture fully entitling it to a place, and there are now many very beautiful varieties. Among the tree Ferns were some large specimens; a magnificent one of Alsophila glauca, sunk in the floor of the house, had fronds that extended 20 feet, and was said to be the largest specimen in Europe. There were also fine specimens of Cibotium princeps, the Cyatheas, and other members of this very fashionable family. It is well known that M. Van Houtte deals largely in novelties, comprising plants of all kinds, from the ordinary softwooded plants to the glorious Palms of the tropics. Amongst new Azaleas two were very highly spoken of—Charles Van Echlaute and President Victor Van den Hecke. The former was described to be of a very brilliant colour and good shape; the latter, white striped with carnation; but as they were not in bloom I could not decide as to their superiority to those in the same class already sent out both from Belgium and England.

Most horticulturists know that Van Houtte is the publisher and editor of "Flore des Serres," and the visitor may see the workmen engaged on it in the establishment, where it is all superintended by the watchful eye and keen judgment of M. Van Houtte himself. At another part of the ground is a steam-engine, which cuts laths, pumps water, grinds paint, and manufactures flour; while again you meet with gas-works for supplying all the gas used in the establishment. That such an establishment requires no ordinary mind to direct it may well be imagined, and all who come in contact with M. Van Houtte at once recognise him as such; and while he is, no doubt, seconded by able superintendents in the various departments, much of the fame and success of the establishment is to be attributed to him. There was not, certainly, such

\* I have used the names by which these places are known in England in preference to their true ones, although we lose much by substituting our anglicised terms. How few remember that "Old John of Gaunt, time-honoured Lancaster" was so called because he came from *Gand*, which we corrupted into Gaunt, and then to Ghent.



a plethora of novelties as I met with at M. Linden's at Brussels, of which more hereafter, but in all the details of the nursery there was a great deal to entertain and instruct.—D., *Deal*.

### MINIATURE ORCHARD-HOUSE.

(Continued from page 93.)

As regards the earliness of crops grown under my glass ridges as compared with those produced in the open air, I may mention that Prince Imperial Strawberries ripened under my ridges seventeen days before their neighbours of the same sort on the same plot without protection. In an ordinary season we should have gained fully twenty-one days. It was no little treat to have Strawberries to breakfast when Covent Garden quotations were 1s. per oz. In Peas we gained fully a fortnight, though not sown till late in March. In Potatoes, planted at the same time as the Peas, we gained about a fortnight. In Turnips, April sown, a fortnight; and in Radishes, likewise April sown, ten days. As the glasses were disused for Strawberries, they were re-erected over Cucumbers, Tomatoes, Pears, Apples, and young Vines which have not yet fruited. Louise Bonne and Jargonelle Pears are a long way ahead of their like in the open ground. Tomatoes, too, which rarely ripen with us here, I am trying to succeed with.

I will now add a very short supplement to my last letter. Take three triangles of glass of any convenient size, as in the accompanying figure, and which I shall call A, B, and C. Drive in an upright wire; lay A against it; complete a triangular pyramid with B and C, and to C, the last fixed of the three triangles, attach a ridge wire. No ridge wire is necessary in sheltered gardens.

The cost of this substitute for a hand-glass, represented beneath, is very slight—from 2d. per one-foot slope, up to 8d. for a very large size, fit to grow a Cauliflower under. For cottage gardens, for Cauliflowers, half-hardy annuals, Vegetable Marrows, Cucumbers, protecting Fuchsias from damp in winter in the open ground, and fifty other things it may do. It has answered well with me for some of them. Putting one up is only the work of thirty seconds.

Reverting to my glass ridges I omitted to mention, that the precaution should be taken to have the ridge wires bent before sending them to be galvanised, and to take care that the galvaniser does not return them too brittle. Bending the wires when galvanised peels the zinc off, and when too brittle the wire snaps at the bend.

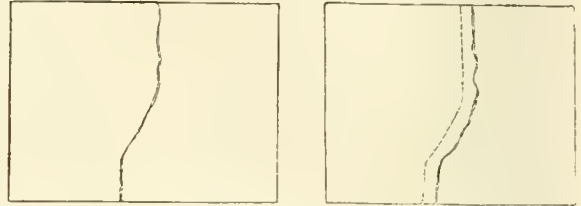
I find a little annoyance in wet weather from birds entering to dust themselves with the dry earth; also, that some of my largest sheets of glass are troublesome from being not quite flat, and so leaving a slight gap in the top of the ridge, which will not do for frosty weather. Gidney's Prussian hoe is most effective in the removal of weeds from under the angle of the ridge, and is, indeed, the only tool I know that can reach them without having to remove the glass.

30 inches by 24 is not too large a size for the sheets of glass, and a little practice makes them very easily managed. With 30 as the slope of the roof, ventilation for Pears, at least, is ample when every fourth sheet on both sides is reversed, so that 24 inches of the upper part of the slope are covered with glass, and the remaining six left exposed for ventilation. Suppose the following to be a perspective view of a ridge:—

For short ridges no ventilation seems necessary except open ends, but this will vary according to the shelter or exposure of the ground.

With every care plates of glass will now and then be broken, and this more particularly in transport from

the dealer or manufacturer to the garden. With large sheets this is a serious drawback, but not so much so as at first sight it would appear. In by far the majority of cases the sheet is broken only into two parts, and usually right across. Now, such broken sheets may be used just as they are without any trimming with the diamond. Supposing a sheet to be broken as under, all that is necessary is to use the two parts for that side of the glass ridge where the glasses lean on the edges of the others, and not against the upright wires, making one half overlap the other, as in the dotted line.

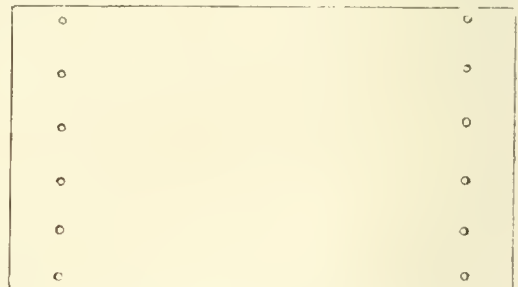


Sometimes an additional ridge wire is required, sometimes not.

For a long time I have not broken a single sheet, except when, from a constitutional absence of mind, I forget that it is glass I am working with, and such an occurrence as breaking a sheet of 20 by 12, or less, I cannot recollect since discarding 16-oz. for 21-oz. glass. With 16-oz. glass the ridge wires require to be very weak in their tension. With glass of 30 by 24 inches, I am troubled with some sheets being not quite flat.

When uprights, more particularly if not galvanised, remain some months in the ground, they become so firmly embedded as to occasion considerable difficulty in their removal; but if caused to revolve on their axis by the use of a monkey-wrench, or a pair of strong pincers, they may be withdrawn from the soil by the hand with the slightest effort.

I have found it a saving of labour to have a store both for wires and glass in the portion of the garden where the glass is used. This need not be covered. Suppose you want to store glass of 24 by 20 inches after taking down a house till wanted for another, take a three-quarter-inch board 25 inches by 12 or so, drill holes in this as under, at 2 inches from each other.

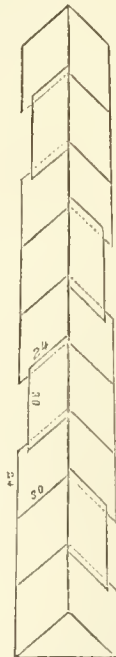
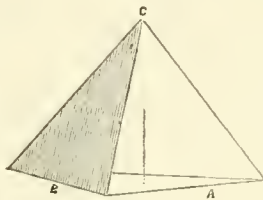


Lay the board flat on the soil, and into each hole drive one of your upright wires. Slip your sheets edgewise between the uprights and no wind will harm them.

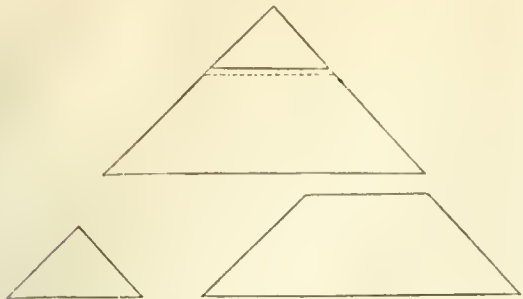
When wanted for a new house the glass is benefited by a coarse brush, such as is used for blacking, being passed over both sides to remove the soil, which in clay lands adheres in lumps where the edges have rested on the ground. This should be done before storing. The rain outside and internal dew will remove what remains, though in dry dusty weather a hearth-brush passed over the outside of the ridges is good.

I cut all my broken bits of glass into the longest sheet I can make, measuring 6, 9, 12, or 15 inches one way. This fits them ready for use in houses with that breadth of ridge. 15 inches is quite large enough for Cucumbers, though 12 inches may do with both ends open. The 9 and 6 inches are useful chiefly in spring for protecting Peas, Radishes, Turnips, &c., and annuals or cuttings. The six-inch ridge is a very cheap protection from birds for newly-sown Peas, or Cabbage seed.

As regards gables, you may save cutting up large sheets by having the triangle of two pieces, and making one overlap the other. The upper one is kept in its place by the pressure



of the under one, and may be removed after danger from frost is over,



Where the glass is stored the wire may, if galvanised, be left without shelter thus, A A being the surface of the ground—



The upright wires rest at each end in the hollow formed by the crossing of two uprights driven into the ground, as represented beneath. The ridge wires may be hung on the same apparatus, leaving the smaller end hanging down.



The smaller pieces of glass I cut into small squares of 3 or 4 inches. Of their use, however, I must speak some other day.

I am still in the dark as to the proper angle for the ridge, consistent with room for the plants inside and the covering, and therefore warming, of a good breadth of soil; also the right amount of ventilation, and where and of what height to make the ventilating-holes. All these will vary with the plants grown and locality.—WILLIAM MCGOWAN.

## THE KITCHEN GARDEN.

APRIL.

By this time the principal crops will be in, the alleys neatly marked out, the various beds properly labelled, and the walks and borders cleaned, making the kitchen garden very interesting indeed. At this time we must keep a sharp look-out to prevent the ravages of slugs on the various crops now appearing above ground. The means I generally adopt is to lay Cabbage leaves in various parts of the garden, and by examining them every morning large numbers may be caught and killed; and where convenient I strew soot on the ground, as on each side of the rows of Peas, and on the seed-beds, &c. Much has been lately written about the ravages of small birds on the young plants of Beet; now we have all kinds of birds here in abundance, and I have never, to my knowledge, lost a single plant of Beet through them, though I never think of protecting it from them in any way.

Onions and other small seeds will now be showing fairly through, and should be hoed at once, using a small four-inch hoe; and as I always sow in drills a man may soon run over a great deal of ground. In fact, from this time, and during the next three or four months, I never look whether there are weeds or not, but send a man with two or three different-sized draw-hoes once every week to go over all the ground, as in a small-sized garden you cannot spare any of it to grow weeds in. By strictly adhering to this system I seldom have any to chop up, and I think one can hoe ground with no weeds in half the time that it would take to hoe it once where these exist.

Some more Peas must also be sown, earthing-up and sticking the more advanced crops. I generally sow British Queen and Bedman's Imperial this month. The first lot of Brussels Sprouts and the second lot of Celery will by this time require pricking out on a well-prepared bed, giving them a little protection at night from frost, &c. A good bed of Lettuce should be planted on the south border, sowing more on the top of one

of the Asparagus-beds. Now is a good time to plant Potatoes between the rows of Cabbage; and towards the end of the month I sow my first batch of dwarf Beans, sowing Turnip Radishes on the top of them, netting it all over to keep the birds from the seed. Red Cabbage should now be planted out in well-mannured ground, and what manure is wanted can be taken off the forced Rhubarb and Sea-kale, whilst any not required for digging-in can be thrown into a heap for the Vegetable Marrows, which should be sown on it as soon as possible, and they will do much better than plants raised under glass. Sow Winter Greens, Leeks, Celery, &c., thinly on the ground that is ultimately intended for the first batch of Savoyes or Coleworts. Now is a good time for working Dwarf Kidney Beans in pots, giving them plenty of manure water to insure fine produce. Cauliflowers will be coming in for use; they, too, should be watered with manure water, mulching them if the weather is at all dry. I generally cut Asparagus out-doors before this month is out, which with Cabbage, Brussels Sprouts, Spinach, and Sea-kale, with perchance some Broccoli (not forgetting the Purple Sprouting Broccoli, which, if kept close cut will do wonders, and is invaluable for a winter and spring vegetable), form the main supply at this time. For salads, I have Cucumbers, Radishes, Lettuce, Mustard and Cress, &c. I always have the best Lettuce at this time of year from the plants that have been wintered under hand-lights. I think the sort I grow is called the Stansted Park Winter White Lettuce, than which it is impossible to have a better. The first lot of forced Sea-kale roots should receive attention at once as to cleaning, manuring, &c.—BURNSTWOOD, P. D.

(To be continued.)

## VERBENA PEGS.

THE best and cheapest Verbena pegs are cut from the Fern. I send you a sample of one which I have just taken from one of my Verbena-beds. They are cut for me by children at 1d. per 100. Where the common Fern can be procured, nothing answers better.

I think that I have two beds of *Coleus Verschaffelti*, bordered with *Centaurea candidissima*, nearly, if not quite, equal to those of Mr. Gibson.—W. G. H.

[These are formed by cutting the fronds at the divarication of the branches, and are at once easily procured, easily made, and perfectly efficient.—EDS.]



## LILUM AURATUM.

THE capabilities of this glorious plant are not yet known. Independently of the varieties in colour which have already been discovered amongst the imported bulbs, the free-flowering qualities of some of them are very remarkable. I saw the other

day at Mr. Veitch's a bulb with twenty-nine flower-buds half-grown upon it; it had two stems, one containing fourteen and the other fifteen flowers. But let not every one imagine that their auratums will be like this; I am persuaded, and in this Mr. Dominy agreed with me, that some varieties are much more free-flowering than others. I had myself this year two bulbs of precisely similar dimensions, they were both treated in the same way, and yet one produced five flowers, the other only one. This has been noticed long since in *Lilium lancifolium*, and I have no doubt it holds good with auratum. Still it is a glorious thing to imagine what this king of Lilies is capable of; and as it is now within every one's reach, we can welcome it as a noble addition to all our gardens, as easy of cultivation as it is beautiful in appearance.—D., Deal.

[The plant above referred to will be exhibited at the meeting of the Floral Committee of the Royal Horticultural Society this day. This, the finest specimen yet seen, was, we believe



grown by Mr. Constantine, gardener to C. Mills, Esq., of Hillington Court, Uxbridge, and certainly reflects great credit on the cultivator. It is, we believe, one of the original bulbs received from Japan by Mr. Veitch, and is most kindly lent to him for exhibition by Mr. Mills.]

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

In sowing crops at this season, which do not come into perfection till spring, and which are expected to grow more or less through the winter, the ground should not only be well manured but trenched to a considerable depth, that the rains and snows of winter may pass quickly beyond the reach of their roots, and that comparative dryness and warmth may be thus maintained around the roots of growing plants. Those who have observed how quickly snow thaws on well-drained land owing to its higher temperature, will at once understand how important the above conditions are to crops which are expected to make way in the winter. *Broccoli*, where there has been any planted between Peas, the latter should be removed as soon as they are done with. The ground should then be dug and the intermediate spaces filled up. *Cauliflowers*, plant out more in warm situations, and hoe through former plantings. *Cherrie*, make a sowing for autumn use. *Cucumbers*, those intended for house culture through the winter, must be shifted into larger pots as those in which they are become filled with roots. A few more seeds may be sown for the same purpose. *Endive*, continue to transplant as circumstances require. Let elevated beds of 4 feet in width, and having a bold curvature, be provided in an open and dry situation. Such beds should be a foot or more above the ground level, and must be made very rich. These beds may be hooped over in the end of October, and may be readily covered with mats when frost arrives. *Lettuce*, keep a succession sown and planted. They will require a good supply of water to make them crisp and fresh. *Spinach*, the Prickly or Flanders may be sown from the 8th to the 15th of the month according to the situation. The beds to be prepared as advised for *Endive*.

### FRUIT GARDEN.

It may be advisable to go over such trees as are over-luxuriant and stop about half the shoots, beginning, of course, with the strongest, for a general stopping at this time would probably be of little further service than to induce the production of a mass of useless spray, whereas stopping the stronger shoots or those which incline to grossness, will divert the sap into the weaker ones which will be strengthened, while the buds on the shoots that have been stopped will become full and plump without starting into growth. Should it be found, after stopping, that the roots incline to start into growth, it will be advisable as soon as the fruit is gathered to open a trench at a moderate distance from the stem of the tree, cutting the stronger roots. This will be of the greatest service in checking growth, and will, probably, do more towards securing ripe wood than anything else that could be adopted. Let the Strawberry plantations intended to, and for next season be trimmed as soon as convenient, cutting off and clearing away the runners so as to afford the leaves plenty of room.

### FLOWER GARDEN.

Go over the flower-beds frequently, and remedy any defects that may be perceptible without loss of time, for the hedging-out plants are enjoyed but for a comparatively short season, and now that they are in beauty every means should be used to render them as effective as possible by maintaining the most perfect order and neatness. The active growth of plants in the flower garden, encouraged by the prevailing humidity of the weather, will involve considerable labour, as it will be necessary to go over the beds frequently, pegging down where necessary, and cutting back such shoots as may incline to encroach upon the edging of the beds. Dahlias are growing rapidly, and will require to be gone over frequently to keep the side branches securely tied in, for when left untied they are apt to be broken by a thunder storm. Hollyhocks must also be securely tied to their stakes. Continue to remove dead flowers from Roses, and give plenty of manure water to the autumn-blooming varieties. Plant out rooted cuttings of Pansies, &c., in nursery-beds in a shady situation, keeping them well watered, if the weather prove dry, until they become established. Finish hudding Roses at once if not already done; also let border Carnations and Picotees be layered without loss of time.

### GREENHOUSE AND CONSERVATORY.

It will be much to the advantage of the inmates of plant-houses to reduce the shading after this time considerably, to enable the plants to ripen their summer's growth, allowing more air to keep down the temperature, and to check any tendency to a second growth which may show itself, and which can only take place at the expense of next season's bloom. Remove *Achimenes*, *Gloxinias*, *Tuberoses*, and plants of the same habit from the conservatory when on the decline, and replenish to keep up the display. *Passifloras*, and, in fact, the greater part of conservatory climbers will be growing fast and will require frequent training. Thin out the weak and over-strong shoots, and reserve only sufficient to produce the desired effect; the blooms will be considerably finer, and the plants themselves more capable of producing well-matured wood, when these little attentions are performed regularly. *Epacris*, winter-flowering *Heaths*, and other plants requiring to have their wood ripened early may now be placed in a sunny exposure; as the wood is already formed nothing remains but to ripen it well, and although water equal to the demands of the plants must be given, a dry air and warm atmosphere are essential to the perfect ripening of the wood and consequent formation of bloom-buds. The different varieties of *Epiphyllum* (if the growth is not sufficiently advanced), should have the same treatment. Give a shift to Chinese *Primulas*, *Cinerarias*, and *Chrysanthemums*. If not done previously, *Salvias* and other autumn-flowering plants should be placed in their blooming-pots. Should the weather prove unfit for out-door work, take the opportunity to effect any changes in the arrangement of the plants. Cleansing the conservatory and potting may also be carried on. It is injudicious to defer this last operation, when at all necessary, until late in the autumn; the sooner new growth is encouraged the better chance there will be of having it matured. Plants arranged out of doors must be frequently examined and carefully secured against all chance of injury from ungenial weather. All kinds of soil used in potting and shifting should now be laid in without delay, except in cases where it is very wet and unfit for storing. Store them up neatly in narrow ridges so as to be safe from wet, and yet exposed as much as possible to the action of the air, and as success in plant-growing very much depends upon having suitable soil for potting, no trouble or expense that may be necessary to procure this should be spared where well-grown specimens are expected.

### STOVE.

Such of the inmates here as are intended for the decoration of the conservatory in autumn and early winter should be carefully looked over, shifting those likely to want more pot room without unnecessary loss of time, so as to have the pots well filled with roots before the flowering season; also, keep the shoots tied out rather thinly, and expose the plants to as much sunshine as they will bear without scorching their foliage, in order to promote stocky growth. Give clear liquid manure to young growing specimens, and repot any intended to have another shift this season, so as to have the pots well filled with roots before winter. Various stove climbers, as *Combretums*, *Quisqualis*, *Allamandas*, &c., will bloom for a considerable portion of the summer if the shoots on which the flowers are borne are slightly cut-in when the blooms decay, as anything which prolongs the period of beauty with these favourites is valuable. The growing season is far advanced, therefore encourage any backward *Orchids* with plenty of heat and moisture while this can be safely done. See that plants growing on blocks and in baskets are properly supplied with moisture at the roots.

### PITS AND FRAMES.

Young stock in cold pits intended to flower next season should be exposed as much as possible in order to ripen the wood. Some of the inmates here will want occasional shading with, of course, a free circulation of air. We need scarcely urge the importance of most regular attention as to watering. —W. KEANE.

## DOINGS OF THE LAST WEEK.

We have had evidence enough of late years, that a man who holds the position of a servant merely, should not be too free in giving utterance to his opinions, whatever these may be; for if at all of a nature to excite general interest, he is sure to be inundated with a number of letters, which sitting up into the short hours of a morning would not enable him to answer, even if his conscience would enable him to do so; and we say



this advisedly, because the conscientious man would not perform any labour, physically or mentally, that would interfere with the regular performance of his duty to those to whom he is ostensibly a servant. It is common to meet with some who make short work of such matters. They make it up to their own satisfaction that they are underpaid for their services, as most gardeners are, and they consider themselves justified in using a part of their working time for other purposes. Now, all such conclusions are in our opinion just so much treading on very dangerous ground. A servant is hardly safe in engaging in any such work without the knowledge of his employer, and if satisfied (and that often is easily done), that he is much underpaid for his services, it would be much more honourable to seek remunerative employment elsewhere, and to dissolve the connection in an honourable manner, than to keep grumbling at the circumstances of our lot, or endeavouring by other employment to add to an otherwise scanty income, by any modes except those which are patent and open to every inspection.

Almost every gardener that we have known, who has done anything for the gardening and general press, is a man distinguished for his attention to business, and who makes his writing hours a substitute for what many others spend in other recreations and amusements.

Hence, no doubt, the propriety of the law laid down by our Editors, that no one is to write to their coadjutors—a law, however, which a good many think may properly be broken in their own individual case, and that, too, as our old friend Mr. Beaton used to complain to us, without even sending an envelope or a postage stamp!—a matter of no moment if such letters were to be numbered by units, but no trifle when they soon amount to scores and hundreds; and yet when your proverbial good nature and courtesy are appealed to, what can you do at times but write a few lines and disobey so far the excellent general rule laid down by the Editors, who knew human nature well before they saw the necessity of requiring all inquiries to be sent directly to them?

The writers of inquiries of a week or two past have mostly kindly wished that we would allude to the matters in this part of the Journal, which, they say, they always read, but which we heartily wish were more worthy of their perusal than ever it has appeared to us to be. These have chiefly reference to the following points:—

1st, *Patents*.—"Do they not retard, rather than advance, useful practice?" Well, on the whole, we think they do. We do not think that, in general, they do good to anybody except the Patent Office. Forgive the use of the authoritative editorial *we*, instead of the insignificant *I*, but we would give all the authority we could to our conviction that, in general, the public have come to have something like a horror of those inventions, discoveries, and improvements that are protected by patent. Did we discover something grand ourselves we would be disposed to throw it open to the public, and to trust to the general run of trade to remunerate us for the discovery. At the same time it is perfectly just and honourable, that the man who has spent much money in perfecting a system worthy of a patent should have the power of deciding as to the best means of rewarding himself for the outlay in money, and thought, and consideration. If, then, as a general rule, we would not recommend people to trouble themselves with patents, we have no right, and no desire, to find fault with those who thus protect themselves. In some cases it is the only plan by which the inventor can receive an adequate remuneration for his time, skill, and many experiments. We would wish it, however, to be clearly understood that, so far as we have the opportunity of noticing, the word "patent" has lost its charm—nay, more—that from the frequency of its use many people come to distrust what is recommended to them by such a high-sounding title. The inventor must be considered the best judge as to how he is to protect his own interests.

2nd, "Could we not use the same non-conducting materials, over and under the glass, as Mr. Beard uses in his iron houses, without infringing his patent?" We do not know, as already instanced, the particulars of the patent; but our belief at present is that you could not do so. If this constitutes a chief part of Mr. Beard's patent it might suit his purpose to sell the use of it, as, even on the score of glazing alone, many of those who build cheap wood orchard-houses might see the advantage of using the elastic substance under and above the glass instead of putty. That, however, is a matter between the builder and the patentee. We know no more than was stated last week.

3rd, "Much obliged for what you say of Mr. Beard's houses;

but it has annoyed me too. I thought I could manage a wooden house this year on the orchard-house or fixed-roof principle, and I cannot afford more. A friend of mine is putting up one with glass at from 1½d. to 1¼d. per foot"—more is the pity—2d. or 3d. would be cheaper in the end—"but then my next neighbour will have none of these paltry orchard-houses. If he has one at all, he will have one of Beard's, if it cost double or treble as much. What do you think will be the difference of the first expense?"

Here is a dilemma. Now, taking lean-to houses in both cases, we believe we could put up a wood-and-glass-house for about one-fourth of those metallic-houses of Mr. Beard's; and if we were short of cash, and wished to have all the enjoyment we could for some thirty years, with an annual outlay for repairs, we would do so; but if we wished our houses to be always nice, lasting, &c., and escape the horrors of chipping and painting, then decidedly we would join issue with your friend, and have houses of a more permanent character. We have not lost our senses in the matter at all. We have as much respect to-day for Mr. Rivers, for making glass houses accessible to the many, as we have for Mr. Beard in making these houses lasting, and without the common annual outlay which such houses generally involve. We would wish each system to stand on its own particular merits.

3rd, and lastly at present. "What an idea, the having a glass-covered flower garden! What and who could live in it with the heat in a bright day? Who could make a roof to shut close when you pleased, and to open vertically when you pleased, to let rain and dews in at pleasure?" After the Crystal Palace and the huge conservatories of Chatsworth, Kew, Enville, and the low ridge-and-furrow-roofed one at Trentham, there can be little doubt of the feasibility of such an achievement. By pivot-hanging and leverage power, and other modes which our great builders know so well how to use, they would tell you that the only difficulty in the matter would be to secure to them the order. The building would soon appear like a fairy scene. Only a short time ago we saw a small dome-roofed glass house, where the dome was thrown open at pleasure. A clever gardener said the ventilation was wrong, just because the rains would come in; but there is no reason why they should not be admitted or shut out at pleasure. Where there was abundance of water there would be no necessity for letting rains in at all. We alluded to it as being worthy of consideration in dry places, and as a saving of labour in watering, but the feasibility does not depend at all on the letting the rains and dews in, as all the water that falls on the glass can be secured in tanks to be used again by pail, engine, or hydropult. As to the heat, who has not felt a relief in moving from the terraces of the Crystal Palace in a hot day, into the Palace itself? With plenty of ventilation, and the help of climbers, and by-and-by of coloured glass, that will let light through and keep back part of the heating-rays, the atmosphere will be every way more mild and enjoyable under glass than in the open air.

The using of coloured glass in plant-houses is, as yet, only beginning to attract attention. What a charm it lends to the fernery of Mr. Bewley, near Dublin! How striking the azure-blue tint of the dome of the conservatory at Woodstock, in Ireland! Would that Mr. McDonald and others who have studied and experimented on the subject, would give us the results of their experiments. It is amazing that coloured glass has not become more one of the luxuries of the age. But, with or without such coloured glass, there need be no question as to the coolness that can be obtained under glass in summer, any more than of the warmth that can be secured in winter. The time will come when those possessing wealth will see the propriety of having an Italy, a Madeira, &c., at their own residences, instead of taking long voyages in seeking after the great boon of health. What a help to medical men would such covered gardens be if placed in connection even with hospitals, where those afflicted with the worst diseases are obliged to congregate!

Without, however, entering into such weighty reasons, we would advocate such glass-covered gardens for giving greater variety to a demesne; affording more space to hardy plants that, once planted, would pretty well look after themselves, and be growing in interest and beauty with only the slightest minimum of our help and interference; and lessening the great anxiety the gardener must now often feel about the weather. For instance: for a week or so, up to the 31st of July, our flower garden was very fair, and of a number of intending visitors we were anxious they would come then, but scarcely any made



their appearance. Since the 31st we have had heavy, continuous, drenching rains, and almost every day; and scarcely a day has passed without visitors coming to inspect the drenched beds and borders, and trusting their feet, and often with thin-soled boots, on the saturated lawns. It would be the height of rudeness to say what, however, most gardeners would think in such circumstances, and that would be that they would have been as pleased that the visitors had stayed at home until the weather changed. Extra hours and extra care may have been exercised in anticipation of some particular company, and then some twenty or forty hours' rain and wind give all the flowers that would have been bright a woe-begone miserable appearance.

#### KITCHEN GARDEN.

Kept on much the same as in the previous week. Taking up Potatoes that were ripe, planting out Broccoli and other greens, staking Peas, cleaning Celery, and planting out lots of Endive and Lettuces, and banking up with grass and litter the sides of Cucumber and Melon-boxes to keep them comfortable.

#### FRUIT GARDEN.

Much as in the previous week. Chiefly thinning fruit and shoots, and exposing the fruit in the late orchard-house, and giving a good watering with manure water to help them in the last swelling. Our Peach-house is now nearly cleared of all but the Walburton Admirable, which will keep us on until the earliest in the orchard-house come in. Potted Strawberry plants, &c., and watered Fig trees.

#### ORNAMENTAL DEPARTMENT.

Thinned the plants of large Chrysanthemums, as they were standing too thickly. They are so strong and stubby that as yet they have received no tying, and we would dispense with it altogether if we could. All staking is just so much stiltling, and instead of making stakes a prominent feature, as we have seen them stuck in in sheaves, and nicely whittled too, we would rather see the stickler show his taste by concealing every stick. Went over single plants of Mignonette in largish pots, training them and taking off the flowers, as such single plants, whether as standards or pyramids, bloom more freely in winter than pots of seedlings grown in the usual way. Top-dressed large plants of Balsams and Fuchsias to secure fine blooms, and though they do not continue long, few things are more striking than fine-grown Balsams. Proceeded with potting on wet days, and commenced putting in cuttings of Verbenas for next season. We have gone to them because they are at present healthy and clean, whilst in dry autumns they are apt to be interfered with by thrips, and the cleaning of the cuttings then is a troublesome affair. In such cases we draw all cuttings through tobacco or quassia water: at present that is not needed. In the flower garden the heavy rains have rendered more twiggling-up with small branches necessary, or the beds would be deprived of their symmetry. Some rows of Geraniums also required fine string run along them to keep them in their place. No better time could be found for weeding, and rolling walks and lawns, and where the mowing machine could not be worked owing to the wet, the scythe was just in its element. Pelargoniums, pruned-in and breaking, were laid on their sides, to prevent extra soaking. Fine clear weather now would greatly advance harvest work.—R. F.

#### COVENT GARDEN MARKET.—AUGUST 5.

Hot-house Grapes, Peaches, and Nectarines are very abundant, and moderate in price. Cherries are now confined to the Morello, Strawberries are over, and Gooseberries are nearly so. Pears chiefly consist of Beurre d'Amanlis, Jargonelle, and Lammas. Plums are very plentiful. The vegetable market is well supplied.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... $\frac{1}{2}$ sieve	1	0 2 0	Melons..... each	2	0 4 0
Apricots..... doz.	1	0 3 0	Mulberries..... punnet	0	6 1 0
Cherries..... lb.	0	6 1 6	Nectarines..... doz.	8	0 12 0
Chestnuts..... bush.	0	0 0 0	Oranges..... 100	10	0 20 0
Currents, Red $\frac{1}{2}$ sieve	3	6 5 0	Peaches..... doz.	10	0 20 0
Black..... doz.	4	6 6 0	Pears (kitchen)..... doz.	0	0 0 0
Figs..... doz.	4	0 8 0	dessert..... doz.	1	0 2 0
Filberts..... lb.	0	9 1 0	Pine Apples..... lb.	3	0 6 0
Cobs..... doz.	0	0 0 0	Plums..... $\frac{1}{2}$ sieve	2	6 4 0
Gooseberries... $\frac{1}{2}$ sieve	2	0 3 0	Quinces..... $\frac{1}{2}$ sieve	0	0 0 0
Grapes, Hambro..... lb.	2	0 5 0	Raspberries..... lb.	0	6 0 0
Muscats..... lb.	3	0 6 0	Strawberries..... lb.	0	0 0 0
Lemons..... 100	8	0 14 0	Walnuts..... bush	14	0 20 0

#### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	4 10 0	Leeks..... bunch	0	3 10 0
Asparagus..... bundle	0	0 0 0	Lettuce..... per score	0	9 1 6
Beans Broad..... bushel	3	0 5 0	Mushrooms..... pottle	2	6 4 0
Kidney..... do.	3	0 5 0	Mstd. & Cress, punnet	0	2 0 0
Beet, Red..... doz.	2	0 3 0	Onions..... doz. bunches	3	0 0 0
Broccoli..... bundle	0	0 0 0	pickling..... quart	0	6 0 8
Brus. Sprouts... $\frac{1}{2}$ sieve	0	0 0 0	Parsley..... $\frac{1}{2}$ sieve	1	0 1 6
Cabbage..... doz.	0	9 1 6	Parsnips..... doz.	1	0 2 0
Capsicums..... 100	0	4 0 8	Peas..... quart	0	9 1 6
Carrots..... bunch	0	4 0 8	Potatoes..... bushel	2	6 4 0
Cardiflower..... doz.	3	0 6 0	New..... bushel	3	0 1 0
Celery..... bundle	2	0 3 0	Radishes doz. bunches	0	2 0 4
Cucumbers..... each	0	6 1 0	Rhubarb..... bundle	0	2 0 4
pickling..... doz.	2	0 4 0	Savoy..... doz.	0	0 0 0
Endive..... score	2	0 3 0	Sea-kale..... basket	0	0 5 0
Fennel..... bunch	0	3 0 0	Spinach..... bushel	4	0 3 0
Garlic and Shallots, lb.	0	8 0 0	Tomatoes..... doz.	2	0 4 0
Herbs..... bunch	3	0 0 0	Turnips..... bunch	0	4 0 6
Horseradish..... bundle	2	6 4 0	Vegetable Marrows dz.	1	0 2 0

#### TO CORRESPONDENTS.

“\* We request that no one will write privately to the departmental writers of the “Journal of Horticulture, Cottage Gardener, and Country Gentleman.” By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*”

**TIME REQUIRED BY PEAS TO COME INTO BEARING.**—I wish to give you my experience of Veitch's Perfection and Hairs' Dwarf Mammoth, which, in a late Number, were stated to require fourteen or sixteen weeks to be ready for picking. I planted Veitch's Perfection on May 9th, and they were fit for picking on July 22nd—ten weeks and 4 days. Again, I planted Hairs' Dwarf Mammoth May 20th, and have to-day (August 1st) gathered a good crop from them—10 weeks 3 days. I should have preferred their coming in later, as, since the latter part of May, although my kitchen garden is only 84 feet by 42, and well stocked with other vegetables, I have had more Peas than my family could consume.—ROWLAND WHEELER, Ventnor.

**MRS POLLOCK GERANIUM (W. P. Sissinghurst).**—The difficulty of growing this well is more imaginary than real. The secret lies in giving it very rich soil, and such can hardly be too rich. See also Mr. Pearson's remarks last week.

**INSECTS (A. E. R.).**—The caterpillars sent are young ones of one of the species of Agrotis (probably the Heart-and-Dart Moth, *A. segetum*), which last year did so much mischief all over the country. There is no other remedy with which we are acquainted to prevent their present attacks than that of laying traps of sliced vegetables, or Cabbage or Lettuce leaves, just below the surface, and examining them every other morning. The caterpillars are produced from eggs, deposited in June by the parent moths, which were, of course, numerous this year; and if we do not have a considerable quantity of wet the caterpillars will be again very injurious.—W.

**APRICOTS DECAYING (John Richards).**—From your description, and without seeing them, we should think that the fruit had not ripened from a deficiency of nutriment, and that is most likely occasioned by the branches gumming. We notice that ants and earwigs have this year eaten holes in the fruit before it was ripe, and the rain penetrating into the holes has caused the fruit to rot in that part before the other was ripe. Perhaps your fruit is similarly affected. We have not seen a mildewed fruit during our practice. Surely your mildew is only the mould found on all decayed and decaying fruits.

**ROSE CELINE FORESTIER NOT FLOWERING (G. C. A.).**—We would try removing or lifting, and root-pruning. Do not prune much, and always to a good eye at the top of the matured shoots. It requires very little pruning, and never flowers much against a wall, or if it do the flowers do not open well.

**CLUB IN CABBAGES, &c. (Sunbury).**—Before planting your Cabbages, Brussels Spouts, &c., tread or roll the ground so as to make it solid, then with a dibber make good-sized holes; fill these up with a mixture of burnt soil and rubbish from the rubbish-heap, then put out your plants, and if the weather continues dry give them an abundant supply of water. We have often found this treatment succeed when every other stratagem has failed.

**MAKING RHODODENDRON-BEDS (Drina).**—You will best make the bed by digging out the light sandy soil, where the bed is to be formed, to the depth of 2 feet, and then filling in to the depth of a foot with your not-very-heavy clay. On this place a foot of peat, and then plant the Rhododendrons in it. The soil most suitable for Rhododendrons is bog soil, or black fibry peat. Your sandy peat will do, unless very sandy, when one-third clay mixed with it would vastly improve it. The best position for Rhododendrons is an open situation, sheltered by trees at a distance, so as not to shade the bed, and yet protect it from strong winds, which ruin the foliage.

**BOOKS (J. W. M.).**—We do not know when a new edition will be issued, or even that such is in contemplation. You might, perhaps, pick up a copy cheaper at some of the book-stalls. You will find nearly all the new plants which have been recently introduced fully described in the several issues of the “Gardeners' Year-Book,” which is published at this office.

**PROPAGATING BEDDING PLANTS (G. L.).**—Verbenas, Heliotropes, Ageratums, Petunias, Cupheas, Fuchsias, and, indeed, all kinds of bedding plants may now be propagated so as to have them well established before winter. They will all readily strike without artificial heat. Keep the cuttings shut up close during the day, and pull the lights off early in the morning for a short time, also in the evening for an hour or two if the air is not too dry.



**PROPAGATING WEIGELA ROSEA AND IVY (J. H. H.).**—Take cuttings of the half-ripened shoots of the Weigela, those that are firm and brown; cut them below the lowest joint transversely; remove the leaves from that and the joint above; leave two joints, or at most three, above them, with the leaves entire, and insert the cuttings in a cold frame, up to the lowest pair of leaves, about 3 inches apart every way, using light loam mixed with about one-half sand. Put on the lights after watering, and do not open them for the next month except to give water, sprinkling them slightly with water every morning in bright weather, and keeping shaded from bright sun. In six weeks they will be fit for potting, and should be kept in a frame during the winter; or they may remain where inserted, and be planted in spring either in pots or open borders. If it is the common Ivy you wish to propagate, cuttings may now be placed in a moist shady border, selecting those cuttings that are short, and have a few roots already in course of formation upon them; but if variegated they should be inserted in a cold frame, and be kept close and shaded as for the Weigela cuttings. The cuttings should be slipped off, and be inserted about half way in the soil.

**RAISING BERBERIS DARWINI FROM SEED (Idem).**—Place the berries in layers, in dry sand, in a box, with sand between each, and sow them next March in light sandy soil, with a little peat or leaf mould intermixed. Distribute the seeds in rows, 3 inches apart, or broadcast, and cover with half an inch of light soil. Water copiously during dry weather.

**POTATO SCAB (J. P. B.).**—We can give you no information as to the cause beyond what was stated in last week's and previous Numbers. In your case, from the lined portion being scabbed, and the tubers in the unlined ground sound, the disease is no doubt attributable to the use of lime, especially as the ground is light and sandy.

**FORMING A CROQUET GROUND (L. I. B.).**—The greatest fault of all cricket grounds that we have seen is that they are too small—not too small, perhaps, for the game to be properly played, but too small to allow of a change of ground; the consequence is, that when the ground is much used, it is soon worn bare, and too short of grass for playing the game well. The smallest we have seen was 12 yards square; this was too small for anything, and a mere mimicry of a cricket ground. We have seen lawns for croquet of all sizes, from the eighth of an acre to an acre in extent; but, from what we know of the game, we should not think of having one of less than a quarter of an acre or 35 or 36 yards square—certainly not less than 30 yards every way; and we would not have it larger unless we expected large parties, and the ground to be in constant use; for with such an area we could change the starting and ending posts. For instance, if the sticks were north and south, we would change them, when the grass began to be worn, to east and west, and thus give it a chance to grow by the time the other piece became worn. If the ground permitted, we would have the croquet lawn sunk about a foot or 15 inches, and form a terrace all round, with a slope of 2 feet to the croquet ground. This terrace to be 36 feet wide: 15 feet of grass from the slope, then a six-foot walk, and 15 feet of grass on the other side, and bounded by a Yew hedge. On the terrace we would plant different kinds of close-growing shrubs, and upright-growing Conifers, exactly in the centre, on each side, and along the ends. Steps of stone at each end, or on all four sides, should lead to the terrace walks; and on the terrace, at these points, we would have vases on each side of the walk, and either vases or statuary on half-terraces at all the corners, the latter being rounded for that purpose, and also at the corners of the outside, or on both sides of the walks, where the walks crossed at right angles. Between the shrubs there would be beds of circular form for bedding and other plants. This might be carried out either on a large or small scale. In forming the ground, make it level, and allow it to settle and become firm before turning. When there are many depressions to fill up, and heights to take down, hollows are apt to be formed, in consequence of the soil sinking. If the subsoil is of a strong tenacious nature, the turf should be laid on an inch or so of ashes, which will help to render it drier in damp weather. Some say the grass comes finer, but the reverse is often the case on dry soils. Form the ground so as to lay the turf by the beginning of October, and, when laid evenly, gently beat as the work proceeds; sprinkle a little soil on the turf after laying, but not much; and if the soil is at all poor give a good dressing of leaf mould and well-rotted manure in the following March. Let the grass grow up to May, or even June, before mowing, in order that it may form good roots, and then mow and roll regularly to bring it into order. It will require a year to do this, even if good turf be laid. Use it very carefully the first year, for if it become bare at the commencement it will show the effects for a long time. If grass seeds are to be sown the ground may be prepared during the winter, and the seed sown in April; let the grass grow until July, then mow, and mow regularly every fortnight afterwards, and manure, if necessary, in order to obtain a good turf earlier; this you will do in a year by sowing seed, and the same year by laying turf; but you must not expect to use the ground the same year, for grass requires time to make a bottom. Of course if it be merely taking up and relaying a lawn that has been some time under the scythe or machine, then the turf may be used in the following year, if laid in autumn, or in the same season, if laid in spring; still it will not endure dry weather so well as a lawn with the roots deep. The main points are—to make the ground large enough, to level a good depth of soil beneath the turf, have a good sward before using it much, and then not to play too long on one piece.

**HEATING A CUCUMBER PIT (J. L. Stackhouse).**—Your Cucumber pit will answer very well. You will have enough of heating if you surround the bottom-heat pipes with pebbles. It would be well to place a layer of clean-washed gravel over all, and that will always give a nice bottom for the soil, and prevent any tendency of the roots to go down to the pipes. It will also be advisable to have a few upright drain-tiles communicating with the rubble round the pipes, through which you can pour water to give a moist bottom heat. The three-feet bed will do for the Cucumbers, but we would have made path and bed of equal width. Such a house, to have Cucumbers in January, should have a bottom heat ranging from 75° to 80°, and the top heat without sun should range from 60° to 65° for short kinds, and a little more, say from 65° to 70°, for very long kinds. In dull weather more fire will be necessary so as to permit of air to keep all sweet. Evaporating-pans would be useful on one of the top pipes. Strawberries will swell very well in such a house, after they are set. You must have a cooler place to bring them on in, until the fruit is set. The shelf against the back wall should be from 16 to 18 inches from the glass, according to the size of the pot and the thickness of the turf used.

**PROPAGATING CERASTIUM TOMENTOSUM, PINKS, AND CARNATIONS (A. A. S.).**—The Cerastium will live out of doors, it is perfectly hardy. Put in at once all the cuttings of it you can take off in a sandy soil on a shady border. Early in the spring propagate from these again. In this way from a few plants you may obtain a large stock by next year. Pinks and Carnations are perfectly hardy; they are best propagated by layers. To do this make a slit in the bottom side of the piping, at a convenient distance from the plant, so that you may be able to bend the shoot down to the ground without breaking, fasten it with a small hook firmly into the ground just above where the slit has been made; then sprinkle a little sand around the layers and scrape a little soil about them, and if all go on well they will have taken root by the end of October, when they should be taken from the parent plants and planted in beds for the spring, when they should be placed in their blooming-beds. The soil for them should be good, having a liberal supply of well-decomposed cow manure in it.

**DESTROYING ANTS (A. H.).**—We can only repeat what we have already stated in answer to other inquirers. To kill ants smear the inside of a flower-pot with honey; invert this over their nests, and when the pot is crowded with them plunge it in boiling water. Repeat this until the colony is destroyed. Another mode consists in placing a 24-sized flower-pot over the nest; the ants work up into it, and may be removed with a shovel, and thrown into a bucket of boiling water. The hole in the pot should be stopped up. Boiling water poured on the nests is a third mode; and the fourth is to mix arsenic with honey, or sugar and water, and place in saucers, covering with an inverted oval or slate, and placing a stone on the top, and two thin pieces of wood between the saucers or slate, to admit the ants to the repast, which they will sometimes devour greedily, and at others not touch. To drive away ants pour strong lime water into their nests several times, and freely. Guano sprinkled over the nest largely, and the application repeated, will also sometimes drive them away; and so will a strong decoction of bruised Laurel leaves poured over the nest at night. Sometimes a decoction of Elder leaves will answer the same purpose. A line of gas tar near the base of the wall, and on the stem of the trees, prevents their ascending. Wool they will seldom cross, more especially when it is dipped in oil; oil, especially train oil, and turpentine, they greatly dislike.

**PREVENTING ANTS AND EARWIGS ATTACKING APRICOTS (R. B.).**—For driving away and destroying ants, see reply to "A. R." in the present Number, and Mr. Fish's remarks last week. Earwigs are best trapped; the traps may be had of any seed-man. Broad Bean-stalks cut into six-inch lengths, the stems of Sunflowers, Jerusalem Artichokes, and of the Giant Cow-parsnips, or *Heracleum giganteum*, are good for the purpose of trapping them. These hollow stems should be placed horizontally in different parts of the trees, and examined every day or every other day, and the earwigs blown or shaken out into scalding water. A little dry moss placed at the bottom of a small flower-pot, and stuck on a stick or spur of the tree, will induce many to congregate in the moss, they may then be shaken out into scalding water or otherwise destroyed, the pots being frequently examined for that purpose.

**VINE LEAVES AND GRAPES SHRIVELLED (R. A. M.).**—The most likely cause of the leaves turning brown and shrivelling up before the Grapes are ripe, is red spider. Another probable cause is not giving air early; moisture is consequently deposited on the leaves, and the sun acting powerfully upon the drops scorches the leaves. It may also proceed from the bad quality of the glass, some glass burning the leaves very much. The Grapes shrivel through shanking, and it is caused by a defective root-action at the second swelling of the berries. The house not being shaded has nothing to do with it. It is not customary to shade vinerias.

**DAISIES AND DANDELIONS ON LAWN (Idem).**—Grub up the Daisies by the root and the Dandelions also, with as much of the thick tap root as possible, dropping a little salt into the hole. It is best done in showery weather. Fill the holes with fresh soil, and slightly scratch the bare places, or level them if necessary with fresh soil, and sow lawn grass seed from now up to the middle of September during showery weather. Roll well after sowing, but not when the soil is so wet as to adhere to the roller. It is best sown a short time before rain.

**FUNGI DESTROYING FERNS (M. W.).**—We imagine that your rockery is constructed of roots and stumps of trees, or that there is a quantity of wood in the compost, which causes the fungus. In that case your only method of getting rid of the fungus would be to remove the pieces of wood, to reconstruct the rockery of stone only, and to replant the Ferns in compost free from sticks and pieces of wood. The present, however, is not a proper time to do this kind of work, the best time is spring; besides it may be impracticable from the absence of stone, and we may be altogether wrong in judging your rockery to be of stumps and roots of trees. We have always found that fungi were caused by wood either in the soil or in close proximity to the roots of the Ferns. Stir the soil, remove that where the fungus most abounds, and dust fresh lime wherever the fungus exists, replacing the soil removed with fresh compost. Whenever the fungus re-appears stir the soil frequently, and sprinkle with fresh lime, which is disliked by all fungi, and the only effectual mode of keeping them in check without seriously injuring the plants.

**BEECH LEAVES OF DIFFERENT KINDS ON THE SAME TREE (E. S.).**—The cut leaves are those of *Fagus sylvatica heterophylla*, which are sometimes in narrow shreds and at other times broader. This variety is very apt to return to its normal form, the common Beech, as in the present instance—hence the supposed Oak and Beech leaves on the same tree.

**COLOURING BRICKWORK (R. W. C.).**—The best plan you can adopt with your fine that is so exposed, is to colour it in the usual way with lime wash, and then place a wire guard along the exposed side to keep it from the clothes of visitors. This will be better than colouring that will not rub off.

**FUCHSIA BLOOMS PREMATURELY FALLING (—, Northallerton).**—We found no trace of insects on your Fuchsia blooms. We believe that the falling of the bloom is owing to one of two causes—the heart of the ball of earth is dry, notwithstanding your regular watering—and, if you suspect this, make holes with wires, or set the pot in a tub of water—or the bees have access to your flowers and fecundate them, and then the blossom drops. Many are obliged to use gauze coverings over the open ventilators to keep bees from Fuchsias. From this cause we have seen hundreds of blooms drop on a morning. Let us know what you think. We are obliged for the information about the *Chrysanthemums* and the *Lonicera*.



**RED SPIDER AND MILDEW ON VINE LEAVES** (*B. W. Stannus*).—Your Vines are very much infested with mildew and red spider. Procure some quassia chips, boil them for fifteen minutes, about 3 ozs. to two gallons of water. After it is cold syringe the Vines well with this two or three times. If the house is heated by hot-water pipes, give these a good coating over with sulphur mixed with soft soap, give all the air possible, and soak the Vines well at the roots. We suspect they have suffered from want of water. The border is too shallow. Place 8 or 10 inches of fresh soil on the top of the border at once, but first give a liberal sprinkling of bones all over the border. See that it is well soaked with water before you do this.

**DESTROYING THIRPS ON CUCUMBER LEAVES** (*A Subscriber*).—The insect is the common thrips—it changes colour as it becomes older. If the bulk of the leaves are as bad as those sent, the best plan is to smoke the house with sulphur and kill plants as well as insects, clean the place, and begin anew. If those sent are the worst, and there is a good deal of healthy foliage, we would cut off all the worst carefully and burn them, then smoke with shag tobacco when the leaves are dry; next day keep shaded and close, syringe with quassia water or weak glue water, and repeat the dose. If the plants are as bad as the leaves sent, we would not waste the tobacco on them. Once we had a bed very much attacked

and we cut off all the leaves, washed with glue water, and let the plants break afresh, but this only answers with strong healthy plants.

**VERBENA VELVET CUSHION**, &c. (*E. P.*; *G. L.*).—For plants of these apply to Messrs. E. G. Henderson & Son, of the Wellington Road Nursery, St. John's Wood, London. They will also supply the *Viola cornuta* in any quantity. It is not the common garden variety.

**NAMES OF PLANTS** (*N. B.*).—Hollyhock apparently worthless, but impossible to judge of certainly in the stage at which it was sent. The labels of both your Fuchsias were detached. (*A. K.*).—1, Do not recognise this leaf; 2, *Gasteria verrucosa*; 3, *Aloe serra*. (*Cheshmore, Waterford*).—*Encephalartos pungens*. (*East Sussex*).—1, *Muhlenbeckia complexa*; 2, *Cyrtanthera Pohlana*; 3, *Begonia*; 4, *Begonia discolor*; 5, *Lastrea decurrens*; 6, *Convolvulus mauritanicus*; 7, *Asclepias curassavica*. (*D. Davis*).—1 and 2, (young, vars. of *Athyrium Filix-femina*; 3, appears to be *Hypolepis distans*; 4, *Nephrolepis tuberosa*; 5, *Scolopendrium vulgare crenatolobatum*; 6 to 9, vars. of *Scolopendrium vulgare*, not determinable without better fronds. (*T. W.*, *A Subscriber*).—*Solidago virgaurea* and *Hemerocallis corollata*. The *Pelargonium* not determinable. (*New Forest*).—The smaller is *Cystopteris bulbifera*; the larger, *Lastrea spinulosa*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 5th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 30	29.975	29.944	78	42	65½	63½	N.E.	.00	Fine; very fine; with some clouds; cool at night.
Mon. . . 31	29.779	29.573	76	49	64½	63	S.W.	.85	Very fine; overcast and fine; heavy rain at night.
Tues. . . 1	29.804	29.747	65	37	64	62	W.	.00	Cloudy throughout; cold at night. [at night.
Wed. . . 2	29.734	29.318	63	37	63	61	S.W.	.49	Slight rain, showery; thunder; heavy showers; cold; nearly freezing
Thurs. . 3	29.745	29.677	65	45	61	59½	W.	.42	Rain; showery; heavy rain at night.
Fri. . . 4	30.026	29.871	70	35	60½	59	N.W.	.00	Partially overcast; fine with clouds; very fine; cold at night.
Sat. . . 5	30.063	30.030	73	43	60½	59	W.	.00	Heavy dew, with slight fog; exceedingly fine throughout.
Mean..	29.875	29.937	70.00	41.14	62.71	61.00	....	1.76	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### AMONG THE MENDIPS WITH MR. RODBARD.

No. 2.

On looking out from my window I found the morning was most brilliant. There had been rain during the night, and now it was "the clear shining after rain" mentioned in the Bible. On such occasions the state of the atmosphere is grateful to the senses of sight, and smell, and taste. Breakfast having been dispatched, Mr. Rodbard proposed a walk to inspect the poultry. I am, perhaps most of us are, fond of imagining before I see it what a place will be like, and then comparing the reality with the imagination. I thought that the poultry would be in specially built houses; I thought of the various contrivances to keep the breeds separate; what sort of laying-places; I thought of an infinite outlay of painted wood, wire-netting, newly invented food-pans, and water-bottles. All my thoughts and imaginings were quite unnecessary, and quite incorrect. The ground in the park around Aldwick Court was of the most undulatory description possible. I use the word "undulatory" in its original meaning "wave-like." A high mass of hill, then a valley, deep but not wide, then another wave of hill, then another valley, and so on. Now the consequence of this was that within what was really a short distance there might be two distinct walks for poultry, and the two lots of birds never met; then on further, other walks. Bearing this in mind, a great deal of trouble was spared. Then all being grass runs and such splendid air no wonder that I did not see one sickly bird. As to houses, Mr. Rodbard informed me that he had not built one. There happened to be a number of old buildings scattered here and there on the estate before it became his, some for cattle, others for tool-houses, &c., and these, without even much alteration, became his poultry-houses.

But now for our walk. Passing through a building filled with all manner of baskets which had been sent to many shows, and whose inhabitants had never been overcrowded, I came to walk No. 1, where were some Spanish fowls just returned from a show, having won a prize of course. We ascend a hill, but in ascending I stop to admire some Rouen Ducks whose marvellous length seemed to require that they should have an additional pair of legs. I throw out this hint to committees, "Rouen Ducks to take prizes are expected to have four legs, those having but the ordinary two will be disqualified." Doubtless four-legged ones would appear! We can breed to feather, why not to a foot? Up the hill—that wicked "B."

who said I was fat would have heard me pant at any rate, though I am *not* fat, I beg to state. We come to an aged tree round which a seat had been made; this is called "Hannah More's tree," and it is said the authoress loved to climb the hill and enjoy the prospect. "But what is this somewhat ecclesiastical building in the trees?" "Only my private chapel," said Mr. R. We enter the gate of the—is it a churchyard? Yes—no—yes—no—I think not, for I see no grave-stones, only fowls. It does look like a church of churchwarden-gothic, tower and all. On going round to the south door I find it is not a church, but built to look like one at a distance. It was erected for the accommodation of cattle. Had I preached there, my text would have been "What meaneth this lowing of oxen that I hear?" But the cattle had given place to Partridge Cochins—I caught a cockerel, and a big baby he was—I then caught a hen, the largest I think I had ever seen. Unless I greatly mistake, Mr. Rodbard will do wonders with his breed of Cochins—other exhibitors, look out; cross your strains, hatch early, feed well, or you will be beaten. Nay, you must be beaten unless you have as large birds. Leaving the church with its congregation of sleepy (sitting) hens, and the larger congregation of lads and lasses (cockerels and pullets) walking about the churchyard—idle creatures, where is the churchwarden?—we dip down a valley, and come upon a tool-house divided by wire, with a most hopeful-looking lot of Spanish inside. Then on to a walled garden, in the corner of which was a gardener's cottage converted into a poultry establishment for early Spanish chickens. In a good-sized room, ceiled and with glazed windows, were a vast number of birds. Imagine three counters from drapers' shops running round the room, with upright boards nailed on the edges, thus turning the counters into troughs, and in each trough a quantity of chopped straw to keep the chickens warm. The said chickens when I saw them were advanced in chickenhood, and even sporting in an enclosed space, hiding beneath artichoke and rhubarb plants; they all seemed healthy. I stroll on and come to a farmyard, where I find some Game fowls; these gave me a headache, as I always want to keep them, but am unable. Further on, past a lodge, we came to the coachman's cottage, where, in the yard, we found a number of Spanish cocks living together in single blessedness, yet happy bachelors, neither moping nor pugnacious. A little further, and I am in front of Aldwick Court, and my ramble is done.

Now for a few reflections. Mr. Rodbard has singular facilities for keeping his birds—the ground, the air, everything in their favour. Then he thoroughly understands poultry, and most thoroughly enjoys the pastime. I have never seen such good Spanish, and never better Rouen Ducks; the Cochins and

Game were also excellent. A lunch formed a natural conclusion to my walk, then, for 'tis Saturday, I must away. We drive back to Yatton, and in the railway I meditate upon the pleasant visit I have had.

This second paper would have appeared earlier but for the illness of the writer; and now, if my memory has failed me and I have not noted anything that was noteworthy at Abwick, the pen of an aching head and shaky hand must be given.—WILTSHIRE RECTOR.

### LUTTERWORTH POULTRY EXHIBITION.

THE number of entries for this Show were beyond question much curtailed, from the fact that the nearest railway station to Lutterworth is fully three and a half miles from the place of exhibition, nevertheless there were sufficient birds upon the ground to make a good show. It is certain, however, that had the Lutterworth meeting been of easy access by railway, the number of pens would have been doubled. The poultry were exhibited under a tent perfectly waterproof, a fact that was unfortunately tested during the whole of the first morning the Show was open by exceedingly heavy occasional downfalls of rain.

In *Grey Dorkings* the classes were very good. Henry Warner, Esq., of The Elms, Loughborough, exhibiting excellent adults, but at present in deep moult; and he gained the first prize also in Dorking chickens with a pen that proved a complete "walk over" to his opponents. The *Spanish* fowls were good likewise, but much out of condition. In *Cochins* (any colour competing), Buffs alone were the prizetakers, for though some excellent Partridge-coloured ones were shown, every cock proved defective. The White *Cochins* were well shown, and proved one of the best-filled classes in the Show. Some White *Cochin* chickens competing with quite bright green legs were of course inadmissible. *Game* fowls during moult always show to great disadvantage, but some excellent birds were entered. With the exception of the Golden-spangled *Hamburghs*, the *Hamburghs* were perhaps one of the very worst classes in the Show. Some pretty Gold-laced *Bantams* were exhibited, and some very fair White ones also. The *Game Bantams* were superior, but moulting.

The *Aylesbury Ducks* were one of the best classes in the show; but, strange to say, not a single entry was made for *Rouens*.

The *Turkeys* were really capital, but there was no entry whatever of *Geese*.

The *Pigeons* were few in numbers, but the prize Carriers, *Turbits*, *Pouters*, *Rants*, *Jacobins*, and *Fantails*, were decidedly better than heretofore at this Society's meetings.

It is a pleasure to record the fact, that every arrangement was not only perfectly fulfilled, but also completed long prior to the time appointed for opening.

The fowls were liberally fed, and the pens used were the well-known exhibition pens of Mr. Turner of Sheffield. Had the weather been propitious, instead of the most disheartening that could be imagined at the break of day, the attendance of visitors would doubtless have been far greater, but heavy showers prevented numbers from taking tickets who actually had purposely attended at the various outlying railway stations to do so. Some of the more daring visitors, beguiled by an occasional gleam of sunshine, ventured even to walk from the Ullersherpe station to receive, in many instances, a thorough wetting through in return.

**DORKINGS.**—First, H. Warner, Loughborough. Second, M. Brown, Ab-Kettleby. Commended, H. Bond, Lutterworth. *Chickens*.—First, H. Warner. Second, M. Brown. Commended, H. Bond; W. T. Everard, Alton Grange.

**SPANISH.**—First and Second, M. Brown, Ab-Kettleby. Commended, E. Morley, Spocote. *Chickens*.—Prize, W. T. Everard, Alton Grange.

**COCHIN-CHINA** (Any colour).—First, J. Buckley, Desford. Second, H. Warner, The Elms. *Chickens*.—First, H. Warner. Second, J. Buckley. Highly Commended, A. Guy, Eaton.

**COCHIN-CHINA** (White).—First, F. F. Foster, Birmingham. Second, M. Brown, Ab-Kettleby. *Chickens*.—Prize, J. Pratt, Whetstone. **GAME** (Black-breasted and other Reds).—First, R. Sansome, Lutterworth. Second, W. S. Ivens, Lutterworth. *Chickens*.—First, H. Warner, The Elms. Second, W. T. Everard, Alton Grange.

**GAME** (White, Fies, or any other Colour).—First, W. T. Everard, Alton Grange. Second, A. Guy, Eaton. Highly Commended, W. S. Ivens, Lutterworth. *Chickens*.—First, W. T. Everard. Second, H. Warner.

**HAMBURGH** (Golden-spangled).—First, H. E. Emberlin, Humberstone. Second, W. Draycott, Humberstone. Commended, J. Buckley, Desford. *Chickens*.—First, H. E. Emberlin. Second, W. Draycott.

**HAMBURGH** (Silver-spangled).—First, withheld. Second, J. Buckley, Desford.

**BANTAMS** (Gold-laced).—First, W. Draycott, Humberstone. Second, Lady Berners, Kethorpe Hall.

**BANTAMS** (Cleans-legged).—First, W. Draycott, Humberstone. Second, H. E. Emberlin, Humberstone.

**BANTAMS** (Black Cleans-legged).—Prize W. Draycott, Humberstone.

**BANTAMS** (Game, Black-breasted and other Reds).—First, W. S. Ivens, Lutterworth. Second, A. Guy, Eaton. Highly Commended, H. Warner, The Elms.

**DUCKS** (Aylesbury).—First, H. E. Emberlin, Humberstone. Second, W. A. Kendall, Humberstone. Highly Commended, F. Gill, Narborough.

**TURKEYS.**—First, A. Guy, Eaton. Second and Highly Commended, J. Johnson, Braunstone.

**PIGEONS**.—*Carriers*.—First, F. F. Foster, Birmingham. Second, W. Draycott, Humberstone. Highly Commended, F. W. Montgomery, Wals-

grave. *Turbits*.—First, F. F. Foster, Birmingham. Second, H. E. Emberlin, Humberstone. Commended, F. F. Foster. *Pouters*.—First, H. E. Emberlin, Humberstone. Second, F. F. Foster, Birmingham. Commended, F. W. Montgomery, Walsgrave. *Rants*.—First, H. E. Emberlin, Humberstone. Second, W. Reed. *Jacobins*.—First, F. F. Foster, Birmingham. Second, H. E. Emberlin, Humberstone. *Fantails*.—First, W. Draycott, Humberstone. Second, F. F. Foster, Birmingham. Commended, C. H. Gates, Lutterworth. *Magpies*.—Prize, H. E. Emberlin, Humberstone. Any other variety.—First, H. E. Emberlin, Humberstone. Second, F. W. Montgomery, Walsgrave. Highly Commended, F. W. Montgomery. Commended C. H. Gates, Lutterworth.

**RABBITS**.—*Weight*.—First, W. Draycott, Humberstone. Second, F. W. Montgomery, Walsgrave. *Length of Ears*.—First, F. W. Montgomery, Walsgrave. Second, W. Read. Any other kind.—Prize, W. Draycott, Humberstone.

**SWEETSTAKES** (Game Geck).—Prize, H. Warner, The Elms. Highly Commended, W. T. Everard, Alton Grange.

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham, officiated as Judge.

### BUDE HAVEN POULTRY SHOW.—JULY 28th.

THIS was the ninth annual Show, and there were sixty entries more than last year, the funds too are still increasing. The afternoon of the day of exhibition was very fine, though the morning was by no means promising, and the visitors, consequently, were very numerous. *Dorkings* took the lead for entries, and many of them were purchased from first-class yards. The first-prize White *Dorkings* were a beautiful pen, so too were the first-prize Golden-pencilled *Hamburghs*. In *Game* there were twelve entries of first-class birds. [The *chickens* were rather too young but very handsome. Black *Cornish* were beautiful birds. Dark-pencilled *Brahma* chickens from H. Leworthy, Esq., but not entered for competition, were much admired. The *Ducks*, *Guinea Fowls*, and *Turkeys* were also very good.

**DORKINGS** (Coloured).—First and Second, Rev. G. De C. Guille. Third, Rev. A. C. Thynne. Fourth, Rev. J. R. Whyte. *Chickens*.—First, Rev. G. De C. Guille. Second, J. Brock. *Single Cock*.—First, J. Galsworthy. Second, J. Dinner.

**DORKINGS** (White).—First, W. Pickard. Second, J. M. Braund. **SPANISH**.—First, R. Hoskin. Second, J. Joce. Third, W. Leach. *Chickens*.—First, R. Hoskin. Second, J. Sluman.

**MINORCAS**.—Prize, W. Shearn.

**GAME**.—First, J. Joce. Second, H. M. Bazley. Third, H. Parsons. *Chickens*.—First and Second, S. Pichard.

**COCHIN-CHINA**.—First and Second, W. L. Trewin.

**MALAYS**.—First and Second, H. Darch.

**CORNISH** (Black).—First, D. Maynard. Second, W. Bromell.

**HAMBURGH** (Golden-pencilled).—First, J. F. Delmar. Second, Mrs., Kingston.

**HAMBURGH** (Golden-spangled).—First, J. F. Delmar. Second, J. Banbury.

**HAMBURGH** (Silver-pencilled).—First, J. M. Braund. Second, T. Legg.

**HAMBURGH** (Silver-spangled).—First and Second, W. M. Lancaster.

**POLAND** (Golden-spangled).—First, F. Gloyne. Second, W. Hore.

**POLAND** (Black, White-topped).—First and Second, W. L. Trewin.

**BARNDOOR**.—First, J. B. Lyle. Second, —Barrott. Third, H. Francis.

Fourth, J. Francis. Fifth, A. Seldon.

#### EXTRA PRIZES.

**COCK AND TWO HENS**.—First and Second, E. Hockin.

**BANTAMS** (Black).—First and Second, W. Bromell.

**GUINEA FOWLS**.—Prize, Rev. G. De C. Guille.

**DUCKS** (Aylesbury).—First, J. Bines. Second and Third, T. Barrett.

*Ducklings*.—First, J. Bines. Second, W. Bines.

**DUCKS** (Common).—First, J. Cotton. Second, T. Trewin. Third, S. T. Pickard.

Fourth, L. Coham. *Ducklings*.—First, W. Bines. Second, J. Wood. Third, J. Goard.

**DUCKS** (Rouen).—First, Rev. G. De C. Guille. Second, G. P. H. Paty.

**GEES**.—First, J. Heal. Second, W. Brock. Third, J. Woodley.

**TURKEYS**.—First, Rev. G. De C. Guille. Second, J. Heal. Third, G. Risdon.

**PIGEONS** (Common).—Prize, J. H. Cotton. *Jacobins*, *Trumpeters*, *Tumbler*.—Prize, J. M. Braund.

**RABBITS** (Lop-eared).—First, J. Cory. Second, F. Gloyne.

**RABBITS** (Common).—First, J. Brimacombe. Second, P. W. Bray.

EXTRA PRIZES GIVEN BY WILLIAM MASELL, ESQ.—**DUCKS**.—Prize, H. Brimacombe.

**JUDGES**.—Dr. Scott, Exeter, and H. Leworthy, Esq., Newport

Barnstaple.

### NEWMILLERDAM POULTRY SHOW.

THIS Show was held on Tuesday, August 1st, on the usual site in Chevit Park, kindly lent for the occasion by Sir Lionel Pilkington, Bart., and although the weather was rather unfavourable yet there was a large attendance of visitors.

The show of poultry was not so large as on some previous occasions, yet the quality of the birds shown was decidedly superior. The first prize for Black Red *Game* was won by Mr. T. J. Charlton, with perhaps the best pen Yorkshire can boast of; the first in *Ducklings* by Mr. W. H. Briggs; and the first for chickens, Brown Reds, by Mr. Aykroyd, with a pen of very extraordinary merit. The *Cochins*, *Dorkings*, *Spanish*, *Polands*, *Hamburghs*, *Ducks*, &c., were all of first-class character. The following are the awards:—

**GAME** (Black Red).—First, T. J. Charlton. Second, F. Vickerman. Any other variety.—First, W. H. Briggs. Second, F. Vickerman. *Chickens*.—First, E. Aykroyd. Second, F. Vickerman.

**COCHINS** (Buff).—First, W. Dawson. Second, H. Beldon. Any other variety.—First, R. J. Wood. Second, W. Dawson. *Chickens*.—First, W. H. Briggs. Second, H. Beldon.



**DORRINGS.**—First, H. Himsworth. Second, H. Beldon. *Chickens.*—First, J. Hirst. Second, H. Himsworth.  
**SPANISH.**—First, H. Beldon. Second, W. Whiteley.  
**HAMBURGS (Golden-spangled).**—Prize, H. Beldon.  
**HAMBURGS (Silver-spangled).**—First and Second, H. Beldon. *Bingley Chickens.*—Prize, H. Beldon. *Any other variety.*—First and Second, H. Beldon.  
**BANTAMS (Black or White).**—First, T. J. Charlton. Second, S. Scholefield. *Game.*—First, F. Vickerman. Second, S. Scholefield.  
**DUCKS (Rouen).**—First, H. Beldon. Second, J. Hirst. *Aylesbury.*—First, J. Hirst. Second, H. Beldon.  
 The Judge was Mr. Thompson.

### HASLINGDEN POULTRY SHOW.

THE exhibition was held on the 28th of July in a large meadow, about five minutes' walk from the Town Hall; and though the rain had the effect of deterring many persons from visiting the show in the forenoon, before one o'clock the sun dispelled the watery clouds and shone forth with the heat and brightness usual to July. Visitors then began to arrive in large numbers, and during the afternoon the show ground was thronged with persons from all the adjacent townships.

The stock of poultry exhibited was not large, but included many excellent birds. The *Game* were in good feather and looked well. Many excellent single cocks were shown, and the chief prizes were won by Mr. C. W. Brierley, of Middleton. Mrs. F. M. Hindle, of Haslingden, took the first prize for *Single cock* belonging to the district, and Mr. W. Westwell, of Baxenden, the second. *Dorkings* were a capital show, and Mr. D. Parsons, of Cnerden, near Preston, took the chief prize, with a splendid pen. *Cochin-Chinas* were also a capital show, and the pen of Black *Spanish* belonging to Mr. Henry Beldon, of Bingley, near Leeds, were first-class, while those belonging to Messrs. Burch & Boulter, of Sheffield, which had the second prize, were really fine. A few good pullets were also shown. *Brahma Pootras* were in good feather, and some fine birds were shown. *Hamburgs* were very numerous, and the Golden-spangled ones shown were beautiful and well bred. In the Silver-pencilled class there were also some capital birds exhibited. The chief prize for *Any variety* was given to Mr. H. Beldon, for a pen of *Polands*, splendid birds. The show of *Game* and other *Bantams* was far above the average in number and breed.

*Turkeys, Geese* and *Ducks* were also of a very good class.

The show of *Pigeons* was very varied; Carriers were a very good class. The fancy classes were well represented, and attracted much attention. Mr. Yardley, of Birmingham, Mr. Cole, of Bradford, and Mr. Brown, of Sheffield, took the chief prizes.

Four pens of *Rabbits* were also shown, two of which were of the Long-eared class belonging to Mr. W. J. Corbridge, of Blackburn. For other varieties prizes were won by Mr. W. Graham, of Accrington, and Mr. Corbridge.

The following is the list of awards:—

**GAME (Single Cock).**—First and Second, C. W. Brierley, Middleton. Highly Commended, W. Gamen, Chester. Commended, J. S. Butler, Poulton-le-Fylde.

**GAME (Single Cock, limited to district).**—First, F. M. Hindle, Haslingden. Second, W. Westwell, Baxenden. Commended, J. Platt, Haslingden.

**GAME.**—First, C. W. Brierley. Second, W. Gamen.

**DORRING.**—First, D. Parsons, Cnerden. Second, W. Gamen. *Chickens.*—First and Second, D. Parsons. Commended, J. Stott, Rochdale.

**COCHIN-CHINA.**—First and Highly Commended, R. J. Wood, Brinscall Hall. Second, T. Stretch, Ormskirk. Commended, H. Beldon, Bingley. *Chickens.*—First, C. Sedgwick, Keighley. Second, T. Stretch. Highly Commended, W. Bamford, Harpurley. Commended, E. Smith, Middleton; W. Bamford.

**SPANISH (Black).**—First, H. Beldon. Second, Messrs. Burch & Boulter, Sheffield. Commended, J. Wood. *Chickens.*—First, Messrs. Burch & Boulter. Second, W. Nicklin, Walsall.

**BRABMA POOTRA.**—First, R. W. Boyle, Bray, Ireland. Second, W. Hargreaves, Bacup. Highly Commended, J. Wood. *Chickens.*—First, R. W. Boyle. Second, M. Seamons, Aylesbury. Highly Commended, J. Stator, Stand Hill; W. Hargreaves.

**HAMBURGH (Golden-pencilled).**—First, H. Beldon. Second, Messrs. Burch & Boulter. Highly Commended, J. Robinson, Garstang. *Chickens.*—First, H. Crossley, Halifax. Second, J. Robinson. Highly Commended, C. Tattersall, Waterfoot.

**HAMBURGH (Silver-pencilled).**—First, J. Robinson. Second, Messrs. Hindle & Pickles, Accrington. *Chickens.*—First, H. Smith. Second, H. Beldon. Commended, A. Nuttall, Newchurch.

**HAMBURGH (Golden-spangled).**—First, W. Driver, Keighley. Second, J. Robinson. Highly Commended, J. Newton, Silsden. *Chickens.*—First, J. Roe, Hadfield. Second, J. Andrew.

**HAMBURGH (Silver-spangled).**—First and Second, H. Beldon. Highly Commended, E. Collinge, Middleton. *Chickens.*—First and Commended, J. Fielding. Second, E. Collinge.

**ANY OTHER VARIETY.**—First, H. Beldon. Second, H. Carter, Holmfirth. Highly Commended, C. W. Brierley; C. Sedgwick.

**SELLING CLASS (Any variety).**—Prize J. Marchant, Halifax.

**BANTAM (Game).**—First, D. Parsons. Second, C. W. Brierley. *Single Cock.*—First, G. Maples, Wavertree. Second, C. W. Brierley. Highly Commended T. Holt, Lincolne; T. Eastham, Preston.

**BANTAMS (Any other variety).**—First, S. & R. Ashton, Roe Cross. Second, R. Tate, Leeds.

**TURKEYS.**—First, E. Leach, Rochdale. Second, T. Houlker, Blackburn. *GESE.*—First, R. W. Boyle. Second, M. Seamons. Highly Commended, B. Baxter; E. Leach.

**DUCKS (Aylesbury).**—First, E. Leach. Second and Highly Commended Mrs. M. Seamons.

**DUCKS (Rouen).**—First and Second, E. Leach. Highly Commended, Mrs. M. Seamons.

**DUCKS (Any other variety).**—First, J. R. Jessop, Hull. Second, T. C. Hanson, Hull. Highly Commended, E. Leach.

**PIGEONS.**—*Carriers.*—First, C. Cole, Bradford. Second, S. Stott, Haslingden. Highly Commended, W. J. Corbridge, Blackburn. *Tumblers.*—First, H. Yardley, Birmingham. Second, J. Fielding, jun., Rochdale. Highly Commended, C. M. Roys, Green Hill. *Barbs.*—First, E. Brown. Second, J. Fielding, jun. Highly Commended, C. Cole. *Owls.*—First, H. Yardley, Second, J. Fielding, jun. Highly Commended, C. M. Roys; J. Fielding, jun. *Croppers.*—First and Second, C. Cole. Highly Commended, E. Brown, Sheffield. *Fantails.*—First and Second, H. Yardley. *Turbits.*—First, H. Yardley. Second, E. Brown. *Dragons.*—First and Second, H. Yardley. Highly Commended, S. S. Stott. *Trumpeters.*—First, H. Yardley. Second, F. Key, Beverley. *Antwerps.*—First and Second, H. Yardley. Commended, W. J. Corbridge; W. Hill, Littleborough. *Any other variety.*—First, H. Yardley. Second, W. J. Corbridge. Highly Commended, C. W. Roys; W. Markland, Dean.

**JUDGES.**—Mr. R. Tebbay, Preston, and Mr. R. Sergenson, Liverpool.—(Abridged from *Preston Guardian*.)

### ROSSENDALE POULTRY EXHIBITION.

THIS was held on the 4th inst., when the following awards were made:—

**HAMBURGS (Silver-pencilled).**—First, Hindle & Pickles, Wood Nook, Accrington. Second, J. Robinson, Vale House, Garstang. Commended, A. K. Wood, Burnside, Kendal.

**HAMBURGS (Golden-pencilled).**—First, S. Smith, Northowram, Halifax. Second, J. Robinson, Vale House, Garstang. Highly Commended, B. Thomas, Sheffield.

**HAMBURGH CHICKENS (Golden or Silver-pencilled).**—First and Second, A. Nuttall, Mill End (Silver-pencilled). Commended S. Smith, Northowram.

**HAMBURGS (Silver-spangled).**—First, A. K. Wood, Burnside, Kendal. Second, J. Fielding, Newchurch. Highly Commended, J. Fielding.

**HAMBURGS (Golden-spangled).**—First, A. K. Wood, Burnside, Kendal. Second, J. Roe, Hadfield, near Manchester.

**HAMBURGH CHICKENS (Golden or Silver-spangled).**—First, J. Roe, Hadfield, near Manchester. Second and Highly Commended, J. Fielding, Newchurch.

**GAME.**—First and Second, C. W. Brierley, Rhode House, Middleton. Highly Commended, T. Dyson, Pellon Lane, Halifax. *Chickens.*—First, J. Turner, Radcliffe. Second, A. Nuttall, Mill End. *Hen or Pullet.*—First and Second, C. W. Brierley, Rhodes House, Middleton. Highly Commended, W. Hargreaves, Bacup. Commended, T. Dyson, Halifax; A. Nuttall, Mill End.

**COCHINS.**—First, J. Wood, Brinscall Hall, Chorley. Second, J. Nelson, Heaton Mersey, Manchester.

**BRABMAS.**—First, W. Hargreaves, Bacup. Second, R. W. Boyle, Galtrin House, Bray, Co. Wicklow, Ireland.

**BANTAMS (Game).**—First, D. Ashworth, Halifax. Second, C. W. Brierley, Rhodes House, Middleton. Highly Commended, R. Tate, Green Road, Leeds.

**BANTAMS (Any other variety).**—First, C. W. Brierley, Rhodes House, Middleton. Master C. H. Hutton, Pndsey, near Leeds.

**ANY OTHER VARIETY.**—First, H. Carter, Upper Thong, Holmfirth. Second, R. Tate, Green Road, Leeds (Black Hamburgs). Highly Commended, C. W. Brierley, Rhodes House, Middleton (Silver Polands); J. Stott, Healy, near Rochdale (Grey Dorkings).

**COCK (Game).**—First and Second, C. W. Brierley, Rhodes House, Middleton.

**COCK (Game Bantam).**—First, C. W. Brierley, Rhodes House Middleton. Second, T. C. Harrison, Hull.

**DUCKS (Aylesbury and Rouen).**—First, E. Leach, Greave House, Rochdale (Aylesbury). Second, J. Nelson, Heaton Mersey, Manchester (Rouen). Highly Commended, E. Leach (Rouen).

**DUCKS (Any other variety).**—First and Second, J. R. Jessop, Hull (Winter Teal and Wild Ducks). Commended, T. C. Harrison, Hull (Brown Call).

**TURKEYS.**—First, J. Wood, Brinscall Hall, Chorley. Highly Commended, E. Leach, Greaves House, Rochdale.

**GESE.**—First, R. W. Boyle, Galtrin House, Bray, Ireland. Highly Commended, E. Leach, Greaves House, Rochdale.

E. Hewitt, Esq., of Sparkbrook, Birmingham, officiated as Judge.

### SULTAN FOWLS.

NOTICING a query respecting Sultan Fowls or Serai Taoooks in your Number of July 25th, I venture to trouble you with a few lines, which may be interesting to the querist.

The original pen imported by Miss Watts was sold to, or exchanged with Mr. Dawson, of Hopton Mirfield, by that lady some years ago. Mr. Dawson bred them and exhibited them with great success. After a while Mr. Dawson finding a difficulty in keeping up without fresh blood, and wishing to give more room to his favourite White Cochins, by a friendly arrangement his entire stock, consisting of an old cock, a younger one, three hens, and three chickens, came into my hands. I was successful in exhibiting them at Islington, Newport, and Brighton, and two pens were claimed at high prices. This left me with only the young cockerel and one superb old hen, when fortune threw in my way a gentleman from the south of Ireland, who consulted me as to the name of a breed of which he had two hens given him by a lady who had them from a ship from the Mediterranean which put into Queenstown. "White-crested, feathered legs, bearded, larger than Bantams." The

description rang music in my ear. "Sultans for a thousand," I thought, "now for the much-wanted change of blood." My informant wanted Buff Cochins, and an arrangement was soon effected for an exchange; but, alas! I could get only one, my friend informing me that the other having become the intimate friend and associate of the mother of certain puppies, and sharing in the maternal cares, his daughter would not part with her at any price. My prize arrived, yellow with Shannon clay, with only half a crest, and generally delapidated, but healthy, and an unmistakably pure Sultan, not a long-legged, taper-bodied White-Poland-looking bird, or a Ptarmigan, by courtesy a Sultan, but the short legs, curiously square body, upright and abundant tail, and five claws of the genuine Sultan—a breed as distinct from White Polands as Game from Dorking. The peculiar hop in the gait of these birds is most striking, and their legs are the shortest in proportion I ever saw. I have twenty-five strong and healthy chickens running about flegged, and I hope to introduce some of them to notice as winners in the Variety class before Christmas has turned.—F. W. ZIMMER, *Belville, Donnybrook, Co. Dublin.*

### A PATERNAL BRAHMA.

MANY years ago, when I was in conversation with the Rev. G. F. Hodgson, he told me that a Partridge Cochin cock, which he had imported, would undertake the charge of a batch of chickens. I had never known any of my Brahmas thus anxious to show their paternal affections; on the contrary, if they take notice of the chicken it has been rather by an application of the beak, which tender mercy never appeared to be appreciated by the recipient. This year, however, my old bird had been placed in a yard, where some three or four hens were finishing their maternal duties. To my extreme surprise I found, after a short time, that when feeding was going on he would allow the chicks to take the food out of his beak. I imagine this commenced by his calling the hens, but it has been fully carried out since they have left the yard; and it is decidedly amusing to see him, surrounded by thirty or forty chickens, now picking up a grain for this one and now for another. Not satisfied, however, with this part of the performance, he first allowed the chicks to come against him for warmth, and ultimately to get under his wings—in fact, treat him as their mother. At night the same duty is thoroughly carried out, the united families making him the centre of attraction, some resting on his broad back, heads peeping out from under his wings, and a motley group around him. I had never, as I have already said, noticed this before, either in this cock or in any other, and the question in my mind is, Why is it so? Is old age affecting him? Well, he was hatched in 1862, and is, therefore, now in his fourth year. I am disposed to think this rather old either for a Cochin or Brahma, and had almost at the beginning of this year made up my mind that the present should be his last year for the stud. His kindness to the chickens has made me waver. He crows as well as ever, is as attentive to any of his ladies admitted to the yard as of yore, and appears every feather to be "monarch of all he surveys," and I am, therefore, disposed still to retain him for another season. Should any of the readers of "our Journal" have had a similar instance I should like to know what they think.

His history during the last few months may offer some solution. Could an old *habitué* of the exhibition tent, as he was, tell whether or no the judge appreciated him, and whether his pen was or was not decorated as it should be? I will not decide this knotty point; but suffice it to say that at the close of the past year he was, for the first time in his life when shown, in first-rate condition, with two splendid partners, unnoticed. Why so I cannot tell. My man Friday "couldn't see the rights on it," and evidently thought it *fool* play. Friday never perpetrates a pun, so he meant it seriously. I will confess that with all my admiration for judges in general, and this identical judge in particular, I felt a shade of dissatisfaction, and can only suppose that his spectacles, if he wore any, dropped off just as he came to my pen; for I hold to this opinion, that though beaten, a thoroughly good pen of birds ought to be commended or more, even if there are a hundred. The next week I sent the same pen somewhat doubtfully to a large show, saw them there myself placed in the worst light of the whole class, still indubitably the best, and the coveted first-prize was there too, with good names not unknown at Birmingham following me. Since then by some accident, he and another

of my birds met on common ground, and, as often happens, age and worth had to succumb to youth and power, and I found my poor old pet crouched under some wood, looking the picture of abject misery, with his rival carrying plenty of marks of the fray, crowing triumphantly alongside. He never recovered his condition as to feather, yet was highly commended at a grand show soon after, where, however, in repucking, he and one of the hens were so roughly handled that a broad bare patch could be easily seen on the back of either, utterly devoid of feathers; so that until moulting is over his chances of prizes are at an end. To-day I introduced some cockerels four or five months old into the yard, but their intrusion he does not tolerate; so that, although he patronises cockerels of two months old, he does not admire strangers of older growth.—Y. B. A. Z.

### LIGURIAN BEES.

THE following is a brief account of what various writers have stated respecting the Ligurian bee:—Aristotle speaks of three different species of the honey bee as well known in his time; the best variety he describes as small in size, round in shape, and variegated in colour. Virgil speaks of two kinds, the better variety he states to be spotted or variegated, and of a beautiful golden colour. Mr. Langstroth gives the opinion of Captain Baldenstein, as observed in their own country, that they differ from the common kind and seem to be more industrious, and among the points which he considered as definitely established by his observations on the Ligurian bee are these—1st, the queen, if healthy, retains her proper fertility at least three or four years. 2nd, the Ligurian bee is more industrious and the queen more prolific than the common bee, because in a most unfavourable year when other colonies produced few swarms and little honey, his Ligurians produced three swarms which filled three hives with comb, and together with the parent hive laid up ample stores for winter, the latter yielding, besides, a box well filled with honey, and the three colonies were among the best in his apiary. The workers do not live at most longer than one year; they do not sting so much as the common bee; they are more prolific, and consequently gather more honey; they are harder, as many of the common bees under more favourable circumstances died out this last winter, and the Ligurians lived and did well. You can go among the Ligurians without being stung, as they seldom attempt to do so if not disturbed, and many of your correspondents who have procured them would not now be without Ligurians on account of their superior qualities.—J. ELMO.

### AUTUMNAL UNIONS.

WILL you kindly inform me how soon it is prudent to unite stocks, so as not to needlessly sacrifice brood? I observe in "Bee-keeping for the Many" that it is spoken of in the calendar under the head of August as well as September. My wish is to effect several unions as early as may be consistent with a due regard to the saving of brood, but I have not had sufficient experience to be competent to judge when this may best be done. May I further ask your kind advice as to the desirability or otherwise of sprinkling bees to be united with sugared beer? Taylor recommends it. "Bee-keeping for the Many" makes no mention of it, but says (I quote from memory), that after knocking the driven bees out and placing the stock hive to which they are to be united gently over them, they will quickly ascend, and all will be peace and harmony. If the sprinkling process may be safely dispensed with I should prefer it.—G. S. C.

[Unless you defer the operation until very late in the season you must expect to find more or less brood. We, therefore, never hesitate, but always utilise what brood-comb we find by giving it to some of our stocks to hatch out. In moveable comb-hives this is readily done by attaching it to bars in the manner described in page 18 of the fifth edition of "Bee-keeping for the Many," and placing it within the hive itself. Where there are no bars but merely a hole in the top, the brood may be placed in its natural position in a bell-glass or other super, and this being put over the aperture in the top of a strong colony, sufficient bees will usually ascend to hatch out the whole. Sprinkling with syrup is not always essential to a successful union, but we do not deem it advisable to neglect it. Simple syrup scented with a little peppermint water is, however, much better for this purpose than sugared beer.]



## THE MASSACRE OF THE DRONES.

[From the German of KARL ENSLIN.]

By "A DEVONSHIRE BEE-KEEPER."

The insect monarch thus commands,\*

(Herself such idlers scorning),

"Let ev'ry drone at once depart,  
Nor look for further warning."

Her warlike amazons prepare,

And from their tents proceeding,

With lances keen the *melee* join,  
No second order needing.

"Turn out, turn out, ye idlers all !

We feed you now no longer.

The lazy ask in vain for food,  
Unless they be the stronger."

The sturdy drones themselves defend,

Their heavy weight opposing ;

But yield at length to arms and skill,

And numbers round them closing ;

Whilst those who on the battle field

Their latest breath are sighing,

Are by the victors dragg'd away,

The dead as well as dying.

The remnant at the frontier wait,

In vain imploring pity,

Remorselessly they're left to starve,

And die without the city.

Now in the hive is sloth unknown,

Of labour none are sparing ;

Some guard their home, some range the fields,

Honey and wax preparing.

T. W. WOODEBURY.

Mount Radford, Exeter, 3rd August, 1865.

## BEE-KEEPING IN SOUTH LANCASHIRE.

I HAVE nothing new to tell my fellow bee-keepers. I simply write because it may be interesting to some of your readers to know how "the busy bee" fares in South Lancashire, and because I want to ask you a question or two respecting the future management of my hives.

First, I ought to remind your readers that we are less happily situated as bee-keepers in this neighbourhood than our friends in agricultural districts. Within a circuit of ten or twelve miles five or six large manufacturing towns are included, of which Manchester is one ; and then, also, our climate here in the north-west is very much less favourable than in the south or midland districts ; though this year I must own we have had but little to complain of the rain, and fog, and dampness for which Lancashire is famous.

My apiary consisted at the beginning of the year of no more than three hives, of which two (swarms of last year) seemed pretty strong, the third, an old stock, quite weak. I intended to allow the stronger hives to swarm, and prevent the weaker one, in which plan I did not succeed. My first swarm, which weighed upwards of 4 lbs., was hived on the 23rd of May, and was the first of which I have heard in this neighbourhood. I placed it in one of Neighbour's common cottage hives, and it has twice filled the straw super with beautiful virgin honey, and has made some comb therein, and stored a little honey a third time. The second swarm from No. 1 issued June 7th, and was given away. I hear that it has filled a good-sized hive, and begun to work in a bell-glass. Hive No. 2, threw a swarm of 4 lbs. on June 6th, which I placed in a wooden-frame hive. They have stored a good deal of honey in their hive, and I have taken in bell-glasses about 6 lbs.

A second swarm from No. 2, weighing 3 lbs., was hived June 20th, and I think has done fairly, increasing in weight some 8 or 9 lbs. I put bell-glasses on No. 3, to prevent swarming, but unfortunately without success. They stored 3 or 4 lbs. in the glasses, and then on July 3rd threw a swarm of 4½ lbs. Happily bad weather prevented a second swarm issuing.

You will see that I have increased my stock from three to seven hives, besides giving away a swarm, and have taken 18 or 20 lbs. of honey. Do you advise me to be greedy, and try for some more, by sending my hives to the heather ? I have done so three years in succession, and each year have

\* This is, of course, mere poetical license ; most persons are now aware that the queen or rather mother-bee never really "commands" the workers.

received my hives no heavier than when I sent them, and this has disposed me to keep them at home this year. Again, I have been accustomed to drive two hives together on receiving them from the moors. Can I do this if I keep them at home ? Will not the bees which have been driven return to the place where their hive used to stand, instead of to their new hive ?

My last question is on a point on which I should like to hear the opinion of some of your readers. We have had some very hot weather this month, and, consequently, a good deal of honeydew. Do the bees work on this ? Books tell us they do, but I have never seen them do so, though I have watched pretty closely the trees where there seemed most. I am anxious to know if any bee-master has seen that which I have been unable to see.—A SOUTH LANCASHIRE BEE-KEEPER.

[We can scarcely advise you with regard to sending your hives to the heather, but after failing three years in succession we should be rather inclined to give it up. You need not hesitate about uniting your stocks by driving, merely taking care to "marry" those that are nearest to each other. Hives increase very rapidly in weight during honeydews, but bees are so seldom seen collecting the sweet deposit or exudation, that we ourselves have witnessed the fact but once.]

UNPLEASANT NEIGHBOURS.—In the garden of the Rev. Arthur Roberts, Rector of Barkham, Berkshire, is a rustic and moveable dovecot, in which are domiciled a considerable family of beautiful white Fantail Pigeons. In one of its compartments may be seen a hen Pigeon sitting closely on her eggs, and in the compartment, immediately beneath her, a large swarm of hornets busily engaged from morning till night constructing their nest or comb.—(*The Age We Live In.*)

## OUR LETTER BOX.

LEG WEAKNESS (W. H. Fell).—In addition to the treatment so judiciously recommended by "our Editor," I would advise you to mix with the soft food, two or three times a-day, five or six grains of phosphate of lime, which you can obtain at any chemist's.—Y. B. A. Z.

AGE AT WHICH HENS CEASE TO BE PROFITABLE (Isa).—By laying, we understand the production of eggs irrespective of breed. For such a purpose we would not keep hens after their third season, half if the hen were valuable on account of her breed or beauty, or if she always bred good chickens, we would not hesitate to keep her for five or six years.

DORRINGS DYING SUDDENLY (W. W.).—If this is a common occurrence, you will, we think, find there is something poisonous about the place. If it has only occurred to two or three, it is merely one of those curious things we cannot explain. Your feeding is judicious and cannot cause it. Put some lumps of camphor in the water they have to drink.

POINTS OF ROSEN DUCKS (R. M. D.).—Size is a most essential point in Rosen Ducks ; and they must be as nearly as possible the wild Duck in plumage of both sexes. The points in which exhibitors fail most, is in the colours of the bills. Blue, leaden, and green are disqualifications in the Ducks. That of the drake must be a mixture, as though the foundation were gamboge washed over with a light tea-green so lightly as to show the yellow through the green.

POLANDS LOSING THEIR TOPKNOTS (G. I. N.).—It is more than probable the birds pick the young feathers out of each other's topknots. They commonly do so, and the patient seems to like the operation. Rub the heads with compound sulphur ointment. If that does no good, you must separate them till the feathers are sufficiently grown to bide the skin, you will have little difficulty afterwards. When the topknots are very large, and in damp and dirty weather, it is a good plan to confine them with an elastic band.

COURT OF DORRINGS' EGGS (F. H.).—In a yard full of the purest Dorrings in England, we find every shade from dark cream, almost brown, to dazzling white. We know not the cause. The condition of the shell is entirely subject to the state of body and health of the bird. The same hen will sometimes lay soft eggs, and at others good hard shells.

GOLDEN-SPANGLED HAMBURGS (Scotchman).—A Golden-spangled Hamburg to have any pretensions to be a prizetaker, must have a white deaf-ear. There are all sorts of fowls in Yorkshire and Lancashire, offshoots of Hamburgs, that are called by all sorts of names ; but if a man advertises "Golden-spangled Hamburgs," he is bound to sell them, and not "Moonies."

TREATMENT OF FOWLS BEFORE EXHIBITION (Eboracum).—Fowls for exhibition should, with the exception of Spanish, be allowed to run. They should be well fed on ground oats slaked with milk, whole corn occasionally, scrap of bread, refuse of cooked meat from the table, &c. Spanish should be shut up in a partially darkened place for a week before being exhibited. All birds should be scrupulously clean when they are exhibited. The basket in which they are packed should be large enough to prevent the feathers from being broken. The light Cinnamon cock would not spoil the chickens for exhibition.

TAKING BEES FROM A ROOF (Boltun).—Yours is just one of those cases requiring the services of a skilled bee-master fertile in resources, who would modify and adapt his proceedings to the exigencies of the moment. Speaking generally, we should say that the best plan would be to use only sufficient smoke to intimidate the bees, and then cut out and remove the combs one by one with the bees adhering to them. If, however, the queen should escape and the swarm return to the old spot in consequence, they might possibly be induced to take possession of a box or small hive that would enter the aperture and might then be removed in the evening.

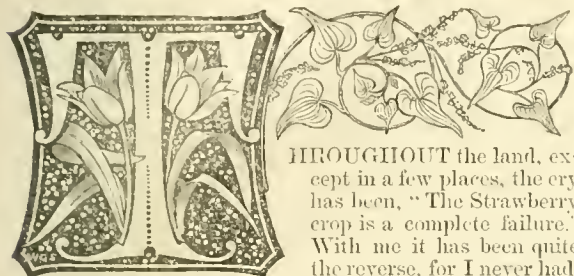
AVERAGE PRODUCE OF A CONDEMNED STOCK AND SWARM (B. B.).—If they average 20 lbs. of honey from each we think they will do very well.

## WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 15—21, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.		Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.		m.	s.	
15	Tu	Sea Holly flowers.	73.0	50.1	61.6	15	47	4	21	47	57	2	24	4	13	227		
16	W	Golden Oat Grass ripe.	73.2	51.5	62.3	18	49	4	19	7	1	0	53	3	25	4	1	228
17	Th	Thistle down floats.	73.1	50.4	61.7	21	50	4	17	7	57	0	40	4	26	3	49	229
18	F	Bracts of Lime tree fall.	73.3	51.6	62.5	14	52	4	15	7	57	1	21	5	27	3	36	230
19	S	Fumitory flowers.	73.0	51.6	62.3	18	53	4	13	7	2	3	53	5	28	3	22	231
20	Sa	10 SUNDAY AFTER TRINITY.	72.5	50.8	62.6	17	55	4	11	7	7	4	23	6	29	3	8	232
21	M	Sun's declination 12° 3' N.	72.4	49.7	61.0	14	57	4	9	7	13	5	48	6	30	2	54	233

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 72.9°, and its night temperature 50.8°. The greatest heat was 92°, on the 18th, 1842; and the lowest cold, 32°, on the 21st, 1850. The greatest fall of rain was 1.12 inch.

## THE CULTURE OF THE STRAWBERRY.



THROUGHOUT the land, except in a few places, the cry has been, "The Strawberry crop is a complete failure." With me it has been quite the reverse, for I never had, and never saw, such an ex-

traordinary crop as my beds have produced this season. The kinds I grow are Sir Harry, Sir Charles Napier, Comte de Paris, Keens' Seedling, Reeves' Eclipse, Carolina Superba, and Cuthill's Black Prince; these have all done equally well.

I think the cause of the failure may, in many instances, be attributed to two circumstances, each of them most important in the successful cultivation of the Strawberry. The first is, that in preparing the ground the soil has not been trenched sufficiently deep, and the manure, instead of being put into the bottom of the trenches, has been mixed with the soil near the surface. When this is the case most of the roots remain near the surface, and the consequence is they are soon dried up by the sun in a hot and dry season like the present. To prevent this, my mode of preparing the ground for the Strawberry is as follows, and I adopt the same principle with most kinds of vegetables, and for flower-beds as well. In the first place I trench the soil as deeply as possible; if I can go to a depth of 2 feet 6 inches or 3 feet without bringing any clay, sand, or other bad soil to the surface I do so. For Strawberries I put 2 inches of good rotten manure in the bottom of every trench, and this is done with the whole of the piece of ground intended for the Strawberry plantation. The manure being placed in the bottom of the trench the sun, however hot and dry the weather may be, cannot injure the Strawberry plants, for the roots will naturally go down in search of the food. They are therefore secure from injury; and the amount of moisture they receive with their food enables them to withstand any amount of dry weather, if the next important operation in connection with their successful cultivation has been properly attended to, which is mulching them in autumn to prevent injury from frost, and early in spring to prevent evaporation during summer. I find the best material for this purpose, is partly decomposed leaves at the autumn mulching, and for the spring dressing slate marl. I know this is not to be obtained in many parts of the kingdom, but where it can be had it is the finest substance possible for them, especially if the soil is light; it keeps the ground cool and moist, and if the lumps are put pretty thickly between the rows early in February or March they will become pulverised before the plants come into flower, when the small pieces of marl should be spread evenly all over the surface of the beds, taking care

that the ground is nicely covered all round the plants. This is best done by going over the beds after the marl has been spread, and holding the leaves of the plant in one hand, and scraping the small pieces round the plant with the other. Where marl cannot be had, use the same material for the spring mulching as that recommended for the autumn.

Now is the proper time to prepare the runners; these should be taken off, and pricked-out in beds of good rich soil, about 3 inches apart, in rows 6 or 8 inches asunder. They should remain in their nursery-beds till about the end of February or beginning of March, when they should be planted in the permanent beds. By this time they will have made good strong plants, and if enough young plants have been pricked-out in the autumn none but those really good and healthy need be put in the permanent beds.

When the beds are planted permanently in the autumn the young plants are not sufficiently developed; hence it often happens that many blind plants are seen in the beds, which makes these appear unsightly, besides causing a waste of space. In preparing the young plants it is a good plan to leave an inch or two of the runner attached to them. If they have not good roots when they are taken off this helps to keep the plants firm in the ground, if the soil is nicely pressed about them when they are pricked-out. I like spring planting too, for this reason—the slight check the plants receive does them good, and the number of roots which they emit after the second planting is double that of plants put in permanently in autumn. Nearly all the points of the roots are broken off in removal, so that the plant has double and treble the number of main roots to establish itself with when it is finally planted in the permanent bed.

I consider fresh beds should be made every year. I never allow a bed to remain after the third year. I arrange my Strawberry ground so that I can destroy two or three beds, and make the same number each year. Under this system the beds are always in the best possible condition.

In order to keep the fruit clean, instead of using straw or litter for the berries to lie on, I have a lot of sticks prepared; these are stuck in around the plants soon after they have done blooming, and some small twine is then wrapped around them in two places, of which one is about 3 inches from the ground, and the other at 5 inches. This plan, although it is rather more troublesome at first, saves time in the end, and it has many advantages over the old system. 1st, It saves the fruit from being spoilt by lying on the damp straw, and the fruit will also hang longer on the plant because the air can circulate more freely amongst them, and in damp weather it prevents their tasting of the straw; 2ndly, the Strawberry season is prolonged ten days or more, because the ripe fruit can be gathered more readily without injury to the young green fruit when they are resting on the strings in the manner described above; and 3rdly, a bed of Strawberries when tied-up in this way presents a most beautiful appearance. I should mention that in putting the string around the sticks it should be hitched once round each stick, and about five or six sticks are required for each plant. I use Willow twigs after they have been cut a few months, as they are more easily cut out,



and present a neater appearance. Another year I shall have the sticks and strings placed around the plants before they open their blossoms, for the scapes will the more readily take their proper positions, and the operation can be performed with greater care and with less injury to the scapes and young fruit.

Carolina Superba and Sir Harry are, in my opinion, the best two Strawberries at present in cultivation. The former far surpasses the old British Queen in point of flavour, and for the four years that I have grown it the plants have done well and cropped very abundantly. Sir Harry is the next best, it continues fruiting about ten days longer than Carolina. We have had very fine fruit of Sir Harry till very recently. The last dish was gathered only a week ago (end of July). From two-year-old plants of Eclipse we have gathered wonderful quantities of fruit. On many of the plants there were as many as thirty-seven fruit-stems.—J. WILLS.

### AWARDS AT DONCASTER HORTICULTURAL SHOW.

I ENCLOSE you a schedule of the Doncaster Show, and will be much obliged for your opinion or that of any of your correspondents as to what the class for handsome-foliaged Geraniums should be. The words of the schedule are "a premier prize for the best twelve distinct varieties of handsome-foliaged Geraniums." I exhibited the following twelve sorts:—*Roi d'Italie*, *Mrs. Kingsbury*, *Mrs. Pollock*, *Italia Unita*, *Fontainebleau*, *Glowworm*, *Countess*, *Adonis*, *St. Fiacre*, *Eugène Négrier*, *Picturata*, and *Sunset*. These were disqualified for not being according to schedule, and I have not yet had anything like an explanation why.—G. EDWARD, *York*.

[Our opinion is, that if the line is correct "a premier prize for the twelve best distinct varieties of handsome-foliaged Geraniums," and there is nothing else in the schedule to render that statement more definite, then there could be no reason for disqualifying the varieties sent, though there might be reason for not giving them the prize. The words "distinct" and "handsome" leave a wide margin, and much to the taste of the exhibitor. We meet with people who prefer the bold horseshoe leaf of *Village Maid*, and the small dark leaf of *Baron Hugel*, to *Mrs. Pollock*, *Italia Unita*, and *Golden Chain*. The Judges might have good reasons for passing by a collection; but, without more than we know from the above line, we do not see the reasons for the disqualification.]

### ON AND ABOUT THE ROCKS AND SANDS OF TENBY.—No. 2.

ONE more note in addition to those I gave last week, and then I will pass to other topics from the still-retained connection of plants with old British customs, and this last note is on the old Oak which stands on Penallt Common, far away on the banks of the Wye. It is a noble specimen of our representative tree, on a well-wooded eminence in the rear of the church. Beneath that Oak is a stone seat, and every corpse on its way to burial is set down on that stone whilst the mourners sing a psalm, significant that their dead friend has triumphed over man's last enemy. I have no doubt that this practice is a remnant of that wise accommodation of Christian to Druidical practices which tell of the earnest good sense which characterised the first promulgers of our faith in these islands.

Let me now jot down some notes on the climate of Tenby and its consequences. Lying high and extending out into the sea, Tenby has a more than average amount of wind; yet a good observer, and not locally interested, remarks, that being more exposed than Torquay to the influence of the gulf stream, Tenby has a slightly warmer midwinter, whilst from its high and more northern locality its summers are rather less hot. The differences between the day and night temperatures are also somewhat less. The mildness of the winters is sufficiently testified by the *Hydrangeas*, *Fuchsias*, *Myrtles*, and *Verbenas*, remaining in the borders uninjured throughout the year. The geniality of the whole year's climate is told by the general luxuriance of vegetation, and the numerous native plants not found where our winters are felt more severely. The Ferns are particularly fine and abundant, and searching for these I wandered on, during the first day of

my sojourn, through deep narrow lanes with luxuriantly-clothed banks, until I came to a residence where surely dwells some banished one, or some modern Timon, some misanthrope, some one disgusted with a world that has played him false.

At the bottom of a deep declivity I saw a stream rippling along; a little lower down it was crossable by a rustic bridge; but this was so tastefully constructed that I could not reconcile it with rusticity. On I went, and every step showed more and more of civility, a good well-kept road, mown banks, *Fuchsias*, evergreens, and then an unmistakeable evidence that an Englishman was lord-paramount there, for on a board with bulldog brevity was inscribed, "PRIVATE." Thus brought to a standstill I sought and found a path permitted to be trodden, and this, one of the narrowest and deepest, I traversed until, passing under an old Ivy-clad arch, I emerged upon the sands of a little rock-enclosed bay. At the head of this, by the side of a waterfall, stood the cottage villa, none other near, and looking as if "Welcome," ought to be a more desirable word than "Private," to inscribe over its entrance-gate. It is a hermitage without the name, for it is known as *Waterwinch*. With rocks around and the sea in front, I had forced upon my memory the poet's query—"Does here some gloomy outcast sleep?" But the owner was saved from a totally unfavourable estimate (and "Y. B. A. Z." will say I am right), by my seeing on the grass plat a group of good dark *Brahma Pootras*. Then there is another pleasing association with the place, for *Blechnum boreale*, or Northern Hard Fern, is found in its hedgerows. I never saw finer specimens, and I never gathered any before, for it is not now as it was in Gerarde's time, when, he records, "on a heath by London, called Hampstead Heath, it groweth in great abundance." The fertile fronds of the specimens I gathered are 2 feet high, and the barren fronds 18 inches.

Let me here record, with commendable self-complacency, that there were twelve fertile fronds and ten barren fronds, and that I took only two of each. If collectors would remember that there are others having a similar need, we should not hear such complaints of species no longer to be found in certain localities, nor have to listen to such speeches as—"I dare not tell where I found it, for if I did it would soon be extinct there."

Contrasts are often as pleasing as harmonies, especially when you pass from the beautiful wild to the beautiful cultivated; and such I found the transition from the *Waterwinch* to *Penally*. This is a dot of a village of wide-apart cottages and residences scattered among many old trees on a steep declivity facing the south, open to the sea, and sheltered behind by the high limestone formation. What a place for blooming *Camellias* in the open air, one would think; but, strange to say, I could not discover one. Yet good gardening guided by good taste is there.

I was told that a fernery in this village was worth seeing, nor was the information deceptive. The gardener was not to be seen, but a young lady ceased from flower-gathering, and advanced and offered to be my guide with that sunny look and kindly speech which make the stranger feel he is not intruding. We passed up a slope, skirted a well-kept geometric flower-garden, by a small vinery and melonry, caught a glimpse of some more than ordinary standard *Fuchsias*, and arrived at the entrance of the remains of an old chapel. Near it stands a portion of a ruin surmounted by one of those round chimnies, now mantled with Ivy, so numerous in Pembrokeshire, testifying of the architecture prevalent in the middle ages. The chapel is known as *St. Daniel's*. I hope that that Saint presided over Ferns—and I think he must, for never were they more luxuriant or better-growing than those now within his sanctuary.

I would only take a hurried glance at them, for my obliging guide was interrupted in arranging bouquets to decorate the inauguration ceremony I mentioned in my commencing notes; so I soon made my best bow of withdrawal, and begged my thanks and card might be presented to the proprietor. That proprietor, Miss Robson, most kindly invited me and mine to repeat the visit; and then I had full leisure to inspect not only the fernery, but the garden, and to search among the wild plants of the vicinity.

The walls of the old chapel are perfect—even the tracery of its east window remains, and that window with good taste is now partly filled with stained glass. No vestige of the old roof remains, and Miss Robson has had it replaced by one of glass. In the centre is a tank of water, around which is rock-work, between which and other rockwork and the border adjoin-

ing the walls is the path. Without a single exception the Ferns in tank, rockwork, border, and walls are more vigorous, and grow more as if they enjoyed growing, than in any other fernery I ever visited. The Ferns on the walls are the best evidences of this, for they are the progeny of the species cultivated in the border and rockwork. These have all ripened their spores, and wherever these are dispersed, there they vegetate; and the moist air, the subdued light, the genial temperature, and the good cultivation, make them flourish as well as they could flourish in their fatherland.

They are not merely Ferns of everyday occurrence, but many of them of the rarer and less easily cultivated species. However, that my readers may judge for themselves, here is a list of them:—

<i>Acerophorus hispidus</i>	<i>Gymnogramma chrysophylla</i>
<i>Adiantum capillus-Veneris</i>	<i>peruviana, var. argyrophylla</i>
<i>cultatum</i>	<i>Wetenhalliana</i>
<i>euneatum</i>	<i>Hymenodium crinitum</i>
<i>curvatum</i>	<i>Lastrea Filix-mas, var. cristata</i>
<i>macrophyllum</i>	<i>glabella</i>
<i>pedatum</i>	<i>Lygodium japonicum</i>
<i>pubescens</i>	<i>volubile</i>
<i>rhomboidesum</i>	<i>Nephrodium exaltatum</i>
<i>trapeziforme</i>	<i>Onychium japonicum</i>
<i>varium</i>	<i>Phlebodium sporodocarpum</i>
<i>Angiopteris evecta</i>	<i>Platylova cordatum</i>
<i>Asplenium bulbiferum</i>	<i>Pleopeltis leiobiza</i>
<i>dimorphum</i>	<i>Polystichum angulare, var. Wol-</i>
<i>flaccidum</i>	<i>lastoni</i>
<i>rachirhizon</i>	<i>Pteris arguta</i>
<i>Cheilanthes debinata</i>	<i>argyrea</i>
<i>elegans</i>	<i>cretica</i>
<i>Cyrtidium falcatum</i>	<i>cretica albo-lineata</i>
<i>Davallia dissecta</i>	<i>longifolia</i>
<i>pentaphylla</i>	<i>tremula</i>
<i>tenuifolia</i>	<i>tricolor</i>
<i>Gleichenia microphylla</i>	<i>Stenochloa tenuifolia, var. na-</i>
<i>Goniophlebium appendiculatum</i>	<i>talensis</i>
<i>subauriculatum</i>	<i>Woodwardia radicans</i>

Of Lycopods there are—

<i>Selaginella cesia</i>	<i>Selaginella obtusa</i>
<i>densa</i>	<i>stolonifera</i>
<i>delicatissima</i>	<i>Wildenowii</i>
<i>lepidophylla</i>	

What else I saw and gained must be left untold until I can again sit down to make further jottings.—G.

### MILDEW ON ROSES.

I HAVE read "A COUNTRY CURATE'S" article at page 105. Mildew, or more properly white fungus, has affected my Roses this season but little, and that chiefly under hot walls. My Roses in both my gardens, respectively with west and north-east aspects, on the briar, on their own roots, and on the Manetti, have suffered immensely from orange fungus, which, as the nucleus is formed on the under side of the leaf, is more difficult to cure than white fungus, known as mildew—literally honeydew—which occurs chiefly on a new branchlet and foliage, on the upper sides of the leaves. As regards orange fungus, I at first attempted to stop it by the removal of the diseased leaf; but on examination of my plants I found it so abundant and universal that I gave it up. It ran its course; and though I had a magnificent first bloom, the fungus spread so thoroughly over the leaves as to destroy them in detail. The plants are now new-foliated and doing well, and I expect good and continuous full bloom. The Manetti Roses only ceased blooming about one week.

I pass from orange fungus, skipping over "black patch," of which I have had none this year, to speak of mildew. Mildew is called the "daughter of drought." Why so? Not because drought is a "creator of the fungus," but an assistant to its rooting and development. If Rose plants were always sufficiently supplied with water at the roots, and the spores continually washed off the leaves, the fungus could not take root. For lack of these two conditions mildew has been called the "daughter of drought." As well may we say it was the daughter of "the fortuitous concurrence of atoms." Drought predisposes or prepares the tree for its rooting; and the atmosphere, such as would be suitable for Mushrooms, aids its development. When the roots are not sufficiently supplied with water, the juices of the tree eliminated at the leaves (new leaves), become sticky, and cause the fungus to adhere; and in due time, the tender leaves being spongy, and not firm and close in texture, the fungus roots into the leaves. This is the real reason why mildew should be called the "daughter of drought." The leaves of some sorts are closer than others.

The glazed or semi-glazed leaves, such as Duchess of Norfolk, Solferino, and Triomphe de Rennes, have suffered nothing from any kind of fungus. In both my gardens the hard-leaved Duchess has retained the beauty of her foliage. I cannot remember ever seeing her with blight or fungus of any kind. The Roses most subject to mildew of any here are the Géant and Baronne Halls. Still, if the fungus is about or floating in the air, it will, if it pitches on the tender and sticky follicles of any Rose, abide there, unless washed off, till the atmosphere favours its rooting and development.

Prevention is better than cure: therefore keep the plants watered at the root and syringed over the leaves. I may say, in passing, that the miseries of trees or plants, whether out of doors or under glass, arise greatly from not keeping the foliage clean. Where people have only a few Roses to attend to, the best way to stop it is to rub it off with the thumb in its early stage before it has rooted deeply into the leaves. Even then you can destroy it by so doing, or it might be sponged off. Young pot plants reared under glass usually come with fungoid disease, imperceptible to the eye, about them. These should be kept well syringed, and should not be planted under hot walls, or in situations that are not airy. Sulphur, I see, is recommended; but sulphur, unless quickly washed off, will do the same mischief as the fungus: it will stop the pores of the leaves, and, if the weather is very hot, it will burn the foliage. An astringent lotion is best. The two ounces of blue vitriol should be thoroughly dissolved with hot water, and then added to the cold. I never knew it affect the leaves, as stated by "A COUNTRY CURATE." Gishurst compound I have never tried. I have seen high testimonials in favour of Toogood's liquid, but this I have never used.

As regards stocks, I imagine that there is but little difference. I have a lot of fine plants of Souvenir de Malmaison on their own roots, and also on Manetti, under my south wall. They suffered much and alike; I could see no difference. It depends, I believe, chiefly on the state of the plant, its foliage, and atmospheric circumstances. In the human body we know there are at times predisposing causes to fungoid diseases.

In conclusion, if "A COUNTRY CURATE" had not speedily washed off Gishurst compound he would probably have had to make a complaint; and had he thoroughly dissolved the vitriol with hot water, so as to leave no grit, he would not have had to complain of a simple, safe, and efficacious cure.—W. E. RADCLIFFE, *Tarrant Rushton*.

### BEDDING ANNUALS.

In seedsmen's catalogues, and in your advertising columns, I have often seen annuals recommended for bedding purposes, but with the exception of one or two kinds, I myself have never been able to obtain satisfactory results with them. It was, therefore, with considerable anticipation of pleasure that I resolved to visit the collection of annuals which Messrs. Hooper advertise to be seen in "the gardens of the Royal Horticultural Society, South Kensington, where their beauty and adaptability as bedding plants is successfully illustrated." I have paid my visit, and return appreciating more than ever the force of that unrecorded beatitude, which blesses him "who expecteth little, for he shall not be disappointed." I doubt if there are many lovers of the well-abused bedding system who would be pleased with that modicum of success which satisfies the Messrs. Hooper; and yet I fear that as a rule greater success is not to be attained with annuals alone.

There is, however, among Messrs. Hooper's beds one filled with *Linum grandiflorum rubrum*, which, from its mode of cultivation, presents an undeservedly shabby appearance. The *Linum* appears to have been treated as a half-hardy annual, sown under protection, and planted out; it was planted too thinly at first, and it shows this all the more where plants have died too late in the season to be replaced. I find this *Linum* does best treated as a hardy annual; I sow in rows 12 inches apart, and if the seed does not germinate regularly, take plants from where they have come up thickly to where the rows are thin. Early in the summer, before the Geranium and Verbena beds are well filled up, the rows in my bed of *Linum* have ceased to be visible, and the plants are a mass of bloom; and late in the autumn, when other beds are bare, the *Linum* still sends out fresh crops of blossoms whenever the frosts permit. I know nothing more gorgeous than this plant on a bright sunny morning when it is properly massed, and it would, I am sure, be much more extensively used if it were only



customary to treat it as hardy, and to give it a chance of filling its bed. I have, probably, ten plants on the same space of ground that is occupied by only one of Messrs. Hooper's; but I can assure your readers that they will be well repaid their outlay of an extra shilling for seed by the difference of result which such an outlay will produce.—MONTICOLA.

### BATTERSEA PARK.

GREAT credit is due to the First Commissioner of Her Majesty's Works, &c., for the manner in which he has beautified the naturally low and swampy ground of Battersea Park. It is only a few years since it was the resort of wild fowl, and only celebrated as a shooting ground, with a trap at one end of a string, and a sportsman at the other ready with his gun to shoot the bewildered pigeon when it issued from its prison. Thanks to the ruling powers and to Mr. Gibson for the change that has taken place, we now see more intellectual recreations for all classes than the Red House provided.

Having entered the Park at the west gate we find seven long beds like the spokes of the half of a wheel, the centre being a circle representing the nut of the wheel. It is edged with *Stachys lanata*, then come two circles of yellow *Calceolarias*, and two circles of *Mountfordii* Geranium, with a dot of *Centaurea candidissima* in the centre. Two beds at opposite sides, to match, are edged with *Stachys lanata*; then there are two rows of Scarlet Geraniums at each side; and at the broad end, in the middle, variegated *Veronica Andersoni*. Two beds have two rows of *Coleus Verschaffeltii* at each side, next Flower of the Day Geranium, and then *Mountfordii* Geranium; and then there are two beds edged with white *Centaurea*, and then comes *Trentham* Rose Geranium. The centre bed is edged with Daybreak Geranium, and consists of *Coleus Verschaffeltii*, then Magenta Geranium, with two or three rows of variegated *Veronica Andersoni* in the centre. On the left is a splendid circle composed of *Iresine Herbstii* edged with white *Centaurea*.

On the south side of the refreshment-room is a fine display; standing in the centre on each side are match beds in this crescent-shaped parterre. The first two beds are planted with an edging of Golden Harkaway Geranium, then come a row of Daybreak Geranium, and four rows of Lady Middleton Geranium. The next are circles edged with Bijon Geranium, with the centre of Scarlet Globe Geranium. The next are two rows of Mrs. Milford Geranium, with four rows of Lord Palmerston Geranium in the centre. The circular beds have Gold-leaf Geranium as an edging, and *Lobelia speciosa* in the centre. The next consist of two rows of Cloth of Gold as an edging, two rows of *Coleus Verschaffeltii*, and four rows of Christine Geranium in the centre. Again, we have circular beds with a row of Mrs. Milford Geranium as an edging, and four rows of Madame Vaucher Geranium in the centre. The end beds are edged with Lady Plymouth and Oriana Geraniums, and have four rows of Cybister Geranium in the centre. The borders that surround this crescent, and at each side of the broad walk leading southwards, are planted ribbon-fashion with three rows of *Lobelia speciosa*, and three rows of Daybreak Geranium intermixed, then two rows of Christine Geranium, two rows of yellow *Calceolaria*, two rows of Lady Middleton Geranium, and two rows of Stella Geranium, backed by *Chrysanthemum pinnatum*. The golden foliage of the Geraniums, the taste displayed in the arrangement of the colours, and the correct knowledge as to the probable heights of the plants, have contributed to produce a gorgeous effect.

On the right is a bank planted with a serpentine border of *Cerastium tomentosum*, about 2 feet wide, with small circular and semicircular beds running through it in the middle planted with Harkaway and Pink Geraniums, and others. It is a new idea for bordering, which I have no doubt will be extended and improved upon. Mr. Gibson, although the last to enter the field, is the first to lead the fashion; his gold and silver leaves give to his beds and borders an oriental richness not to be found elsewhere. I recollect having seen at Chiswick (then under the superintendence of the late Mr. McEwen), a border of annuals in which the circles along the centre were planted with different sorts, and around the circles were squares of other colours. Mr. Miller was carrying out the same system last year on a border at Coombe Abbey.

I will now proceed on the broad walk leading south to the sub-tropical garden, but leaving its details to other hands, my remarks on this part of the grounds will be brief. There you see the Banana or Plantain, the Indianrubber, and the

Brazilian Dragon Tree, the Rice-paper Plant of China, and a host of other plants belonging to warmer climes than our own, but on these I will not dwell. In a long narrow bed I noticed several of Beaton's seedling Geraniums sent out this season by Mr. W. Paul, and among others Black Dwarf, flowers crimson scarlet, a true Nosegay, useful for small beds on account of its close, dwarf habit; Duchess, flowers rosy lake, of dwarf habit; Donald Beaton, flowers orange scarlet, a good variety; Amy Hogg, flowers bright purplish rose, a strong, free-growing Hybrid Nosegay, the leaves slightly zoned, very distinct, and attractive; and Scarlet Gem, flowers bright orange scarlet with white eye, dark horseshoe leaves, valuable for the mass of colour it produces. The triangular-shaped portions were planted with Queen of Queens Geranium, scarlet flowers with white margin; Sulphurea marginata, Variegated Beauty, Nymph, and Glowworm, the latter has fiery scarlet top petals, lower petals magenta, flushed with crimson. To my fancy the handsomest bed in the place is a small circle planted with the Dragon Tree of Australia in the centre, then Begonias, four or five plants of *Draecena ferrea* variegata and Cooperi, edged with white *Centaurea*, and carpeted with *Schaginella denticulata*.

It is delightful to see the interest the people take in the plants here, many with pencil and paper noting down the names. Mr. Gibson originated the happy idea of planting a sub-tropical garden in the open air, and the people flock to the park to see these inhabitants of foreign climes as, for a similar reason, they go to the zoological gardens to see the specimens there exhibited from all parts of the world. All tends to the enlightenment of the present generation. Many tropical plants, which at their first introduction were kept entirely in stoves, are now planted out without any abatement of growth or diminution of beauty; and from this we may reasonably hope that some tropical fruits may in time be so far assimilated to our climate as to ripen in our ordinary summers. Mr. Nickson, when at Pepper Harrow, turned out of pots in June some fruiting Pine plants into a prepared border of loam and leaf mould, and in September they were ripe. Although the weather that summer was unfavourable for the experiment, the flavour of the fruit was pronounced by competent judges to be considerably superior to any fruit grown under glass. Our hope now rests with Mr. Gibson, if sufficient means be afforded him, of seeing Sir Joseph Banks's prophecy fulfilled, that "ere long the Akee and the Avocado Pear of the West Indies; the Flat Peach, the Mandarin Orange, and the Litchi of China; the Mango, the Mangosteen, and the Durian of the East Indies, and possibly other valuable tropical fruits, will be frequent at the tables of opulent persons, and some of them, perhaps, be offered for sale on every market day in Covent Garden."

I hope to see the day when it will be considered safe to remove the iron hurdles in the sub-tropical and other departments of the Park, and allow the public to saunter around the beds and borders. To judge from what I see, I think the people seem to be so grateful for what has been done for their recreation, delight, and instruction, that they would protect the flowers and shrubs from damage in their own parks. The danger of mischief would arise more from the large circumference and sweeping trains of the ladies' dresses than from any other cause. I am glad to see the names attached to the plants in the sub-tropical department, but some are so far from the walks that it is almost impossible to read them.—WM. KEANE.

Although the general features of the sub-tropical department have been ably depicted by "D., Deal," at page 83—so well indeed that little more is left now but to describe the details; yet these may not be without a certain degree of interest as showing more fully the plants which Mr. Gibson employs, and the way in which they are arranged. The effect produced by hundreds of Indianrubber trees, *Caladiums*, and *Cannas*, by noble-leaved *Wigandias*, *Solanums*, *Araucarias*, and *Tobaccos*, with tree Ferns, *Draecenas*, and many other exotic plants, is so different from that produced by ordinary bedding, so different from the garden scenes to which an English eye is accustomed, that any mere description must fail to give an adequate idea of the reality.

Starting from the entrance of the sub-tropical garden on the north, or river, side, and passing circles in which are *Bambusa gracilis*, a plant of graceful habit and so hardy that it has stood out of doors for two winters, and some other plants for trial; next comes a group of *Cannas* in a circular bed, *Canna discolor*, a noble kind with the ample green foliage barred with a dark copper colour approaching the hue of the Purple Beech, being in the centre, with *Canna floribunda* for an edging. Adjoining

this group is a bed of *Lomatia ferruginea*, a Proteaceous plant with very handsome bipinnatifid leaves of rusty or ferruginous hue, whence the specific name. The centre plants were 1 foot high, those at the outside about a foot less.

Turning along the walk to the right and passing the variegated *Bambusa metake* planted out for trial, and *Strelitzia angusta* displaying a noble expanse of foliage, we come to a half-moon bed of *Dracena terminalis*, backed with *Hibiscus rosa sinensis splendens*, and edged with *Centaurea ragusina*. In a group on the opposite or left hand side are *Aralia macrophylla* with large leaves with a yellowish tinge, *Alsophila australis*, *Imantophyllum miniatum*, and *Dracena rubra*, which is readily propagated and very useful. A crescent-shaped bed at the foot of a mound is carpeted with the purple and green *Tradescantia zebrina* and planted with Indianrubber trees, *Aralia papyrifera*, *Dracena brasiliensis*, *D. longifolia*, with long graceful leaves, *D. arborea*, *Grevillea robusta*, most elegant in its foliage and growing freely, variegated *Oleander*, very handsome, and variegated *Veronica* at the back; the whole edged with Golden-variegated Ivy.

In a group on the right, plants of *Aralia papyrifera* from 5 to 6 feet high, with leaves 2 feet across, form the most conspicuous objects, and are now making good strong growth, so that by autumn they will have attained much greater dimensions. Mr. Gibson has found no plant equal to this in the effect which its magnificent foliage produces. In the same bed are fine plants of *Dracena*, and the ground is covered with *Tradescantia* edged with *Gnaphalium laetum*. Near the *Aralias* is another fine bed of *Cannas*, *C. nigrescens* with dark copper-coloured leaves occupying the centre, *C. zebrina elegantissima* one end, and *C. hybrida grandiflora* the other. This is surrounded by *Fuchsia Tom Thumb*, a very dwarf free-flowering kind, which, when planted closely, makes quite a hedge, and produces its pretty little red flowers throughout the season. Next, there is a long oblong bed divided into lozenges along the centre, with triangles in the intervals at the sides, and edged with *Sempervivum montanum*. The triangles at each end are planted with Golden Harkaway Geranium; the central lozenges with Mr. W. Paul's new Nosegay Geraniums, Black Dwarf, Duchess, Donald Beaton, Amy Hogg, and Scarlet Gem; whilst the triangles at the side consist of *Veronica inema*, and *Geraniums* Variegated Beauty, Fairy, Nymph, Rival Nosegay, Glowworm, Queen of Queens, Bonnie Dundee, Ratazzi, and *Sulphurea marginata*. The principal object of this bed is to show that many different varieties of the same plant can be introduced into a single bed and yet produce an agreeable diversity without sacrificing the general effect. Beyond this bed, and further to the back, is one of *Epilobium hirsutum*, the variety with creamy white variegations, and which, being easily propagated by the roots, is, like the common Willow Herb, very useful for damp situations. The next bed to the oblong is filled with *Cannas Annæi* and *edulis*, and *Hedychium coronarium*.

On the opposite side there is a crescent-shaped bed facing the south-west with *Centaurea gymnocarpa* in the centre, edged with *Coleus Verschaffelti*, which makes a beautiful edging to the white, and this again with the Californian Houseleek the leaves of which, being tipped with dark purple, give the whole a novel but pleasing appearance. Near this is a bed of the Laurel-leaved Coral Tree, interspersed with *Cannas*, and edged with *Plumbago capensis*; and then the beautiful long oval bed of Mrs. Pollock Geranium noticed by "D. Deal," at page 84. This is 30 feet long and about 9 feet across, and is planted with a triple row of Mrs. Pollock along the centre and double rows at each side, divided longitudinally by bands of *Lithospermum fruticosum*. The colour of the foliage was beautifully developed, and had the *Lithospermum* been in full flower would have shone to even greater advantage, for Mr. Gibson finds nothing brings out the colour better than blue or a soft green. A circular bed adjoining consists of *Daphne pontica purpurea*, surrounded by a broad circle of the variegated Cock's-foot Grass, one of the most beautiful and effective of broadly white-striped Grasses, and edged with yellow *Calceolaria*, Scarlet Geraniums, and *Convolvulus mauritanicus*. This circle is very pretty.

Opposite the Mrs. Pollock bed is a large bed of *Canna zebrina*, backed with Castor-oil plants, the front row being the dull orange-flowered *Canna crocea*; and in a small circular bed close by the golden Japanese Honeysuckle prettily clothes the stem of a tree. The same beautiful plant is employed as an edging to an elegant group of *Vitis heterophylla variegata*, the leaves of which are much cut, and prettily variegated with pink and

white, and sometimes purple. Near the end of this bed is a very fine specimen of the Bird's-nest Fern; then follows a noble bed of *Cannas* 52 feet long by 8 feet wide. The centre is *Canna discolor*, with *C. crenulata* at back and *C. Sellowii* in front; and the whole is backed with a mass of *Ferdianda cinnamens* 6 feet high, with magnificent leaves nearly 2 feet across. In front of this bed is a long oval planted with seven rows of Mrs. Pollock Geranium, edged with one of *Christine*. This bed is 27 feet long and 6 feet across, and adjoining it is a circle of *Caladium cucullatum*, the centre plant in particular being remarkable for the great size of its foliage, one leaf made out of doors measuring 2 feet 11 inches long and 2 feet across.

On the opposite or left hand side of the same walk is another bed, 48 feet long, planted with *Canna Annæi* in the centre, 5 feet high, and *C. discolor* all round, with *Hedera multi-maculata* as an edging. In other beds on this side are *Ricinus variabilis splendens*, a Castor-oil Plant of vigorous growth, having *Acanthus mollis* planted underneath, and *Cineraria platanifolia* and the variegated Cock's-foot as an edging; the variegated Speedwell, edged with Smith's Excellent Geranium, not a good bedder, but a first-rate kind for pot culture; and in a crescent-shaped bed *Canna Liervalli*, a free-growing dark-stemmed kind, and *C. mussefolia*, with a pale stem and leaves.

On the right, again, is a mixed bed of *Solanums*, with some plants of *Canna rubricaulis*, which grows 5 feet high, and has very dark reddish purple stems and dark bronzy leaves. Other groups of *Cannas* consist of *C. discolor floribunda*, much darker than *discolor*, as robust, and said to be more free-flowering; *C. Annæi rosea*, with warm orange-scarlet flowers; and *C. mussefolia hybrida*, with leaves 2 feet 4 inches long and nearly a foot across; and dividing these are *Solanum Calcei*, a white-flowered kind, having leaves 16 inches long, with white midribs, and set with ochreous spines; and *Solanum citrullifolium*, with deeply sinuated pinnate leaves and pale blue flowers, the whole plant covered with spines. It may here be remarked, that the *Solanums* are planted a good distance apart, for if this is not done the spines tear the leaves of neighbouring plants and spoil their appearance to a very considerable extent. Single plants of *Wigandia caracasana* with magnificent leaves, Japanese Bamboo, *Saccharum perenne*, New Zealand Flax, and Black Bamboo are dotted about at this point; also *Trepidanthus calypttratus*, the leaves of which reflect the light falling on them. Again, we find another fine group of *Cannas* on the left, and then on the right a bed of *Caladium esculentum* 45 feet long and 10 feet wide; the *Caladiums* were about 4 feet high, and their wide expanse of foliage gave the bed a noble appearance. *Funkia undulata variegata* is here employed as an edging. Behind, sheltered by a Willow tree, are two fine specimens of *Alsophila australis* with fronds at least 6 feet across; and close by a fine group of *Seaforthia elegans*, with *Dracena brasiliensis* in front, and *Funkia subcordata* as an under-covering to the soil.

On the left is a series of serpentine beds worked as a chain round circles of Ivy, with *Euonymus radicans variegata*, and Golden Fleece Geranium as an edging, and *Stella* in the centre. Interspersed among these beds are fine specimens of *Dicksonia antarctica*, *Astrapea Wallii*, and variegated *Yuccas*; and behind is a scroll bed 100 feet in length, for the most part planted with a double row of Indianrubber trees 8 feet high, *Hibiscus sinensis coccinea*, and a handsome double buff variety, and edged with *Centaurea ragusina*. Each end is planted with variegated *Crotons* and *Draenas*. The vigour of the Indianrubber plants is most remarkable, and from the way in which the roots are running in the soil, it is evident that they are as much at home at Battersea as in the tropics.

On the opposite side, at the back of the *Caladiums*, and sheltered by an elevated bank, are *Dracena congesta*, *Monstera deliciosa*, *Grevillea robusta*, and *Polymnia grandis*, the last 10 feet high, though only struck from a cutting last year, and which when taken up in autumn had made a growth of between 6 and 7 feet. A short oval, 15 feet long, planted with *Coleus Verschaffelti*, and edged with the silvery *Centaurea gymnocarpa*, is here one of the most glorious sights that can well be imagined, the *Coleus* being a richer and more beautiful brownish crimson than we have ever seen it before, and, withal, even in height, and not a plant faulty. As "D." remarked, it is well "worth going a hundred miles to see." A raised semicircle at the back is planted with *Eucalyptus globosus*, one of the Australian Gum-trees, the timber of which was shown at the International Exhibition of 1862, but though it is not grown here for timber, it bids fair to attain the dimensions of a tree, for it has made a growth of 3 feet this season, and in the public



gardens and parks of Paris, where it is largely used by M. Barillet, it grows 10 or 12 feet in one season. Here, also, occur *Ficus imperialis*, with magnificent leaves a foot long; *Dracæna Ghiesbreghtii*, and seedling *Dicksonias*. Next the *Coleus* bed is a fine circle of Mrs. Pollock *Geranium* set off by a broad edging of blue *Lobelia*; then a bed 48 feet long of dwarf *Cannas*. The front is planted with *expansa*, one of the most useful of dwarf dark varieties, and the remainder with dwarf *indica*, *lutea picta*, *leptochila*, and *Warszewiczii*. Near this group is an elevated bed of *Seaforthæa elegans*, and in front a beautiful circular bed 8 feet in diameter. In the centre of this is *Dracæna australis*, surrounded by *Begonia parviflora*, with pink and white flowers, then by a row of *Dracæna Cooperi* and *D. ferrea* variegata alternately, with single plants of the pure white *Centaurea ragusina compacta* between each; and the whole, except the central portion covered by the *Begonias*, is carpeted with *Selaginella denticulata*, and this is edged with a narrow line of *Saxifraga pectinata*. By means of slight shading when the sun is strong this extremely beautiful group is preserved in all its freshness. In another circle is *Aralia Sieboldi*, surrounded by *Cannas*; this *Aralia* has withstood two winters without protection. Next this, again, is another very beautiful circular-bed, and so fresh and bright in its colours that when first seen it seems more the creation of the imagination than not a stern but lovely reality. The centre is *Dracæna ferrea*, surrounded by three rows of *D. terminalis*, all of which are planted out in the soil, not plunged. Covering the ground in the centre is *Ficus repens*, and the whole is edged with *Centaurea* and *Tradescantia zebrina*.

On the opposite side to these beds, which are the gems of the place, is a mixed irregular bed at the junction with the walk leading southwards; it is edged with the Japanese Honey-suckle, and planted with Coral Trees, *Cassia corymbosa*, *Saccharum Maddenii*, variegated *Arundo donax*, *Amicia zygomeris*, *Wigandia caracasana*, *Solanum macranthum*, *giganteum* (a very tall-growing species), *macrophyllum*, *japonicum*, *pyracanthum*, *glutinosum*, and *violaceum*, the last having the under sides of the leaves of a violet purple colour. Turning the corner, a little further on is a round bed of *Aralia papyrifera*, with *Farfugium grande* beneath, and edged with *Fuchsia Tom Thumb*. Another bed is filled with *Solanum citrullifolium*, with a flat-growing variegated Cock's-foot Grass as an undergrowth, and *Salvia argentea* as an edging; and a sunk bed in a low position is filled with *Cyperus papyrus* and *alternifolius*, *Gunnera scabra*, *Hibiscus palustris*, the Bull-rush of the Nile, variegated *Arundo donax*, and other marsh plants. Other beds near this point consist of one, 60 feet long, of *Canna discolor*, edged with *C. floribunda*; one of *Canna erecta hybrida*, with Castor-oil plants at the back, and *Cassia floribunda* in front, edged with Golden Ivy-leaved *Geranium*; a circle of *Canna rubra superbissima*, *Funkia undulata* variegata, and Golden Ivy-leaf; and a splendid bed 30 feet long, planted with *Wigandias* and *Canna metallica*, one of the finest and most rapid-growing kinds, attaining a height of 8 feet. We also noticed a noble plant of *Ferdinanda eminens* in a circle, and a bed 30 feet long of *Polymnia grandis*, the stems of which are 3 feet high, and fluted like architectural columns, and the leaves bear a strong resemblance to those of the Bread-fruit tree. *Verbesina gigantea*, *Solanum robustum*, and *Sonchus laciniatus*, the last with a pretty Fern-like leaf, occupy another long bed; and in front of a semicircle about 64 feet in length, planted with *Cannas Anna's* and *discolor*, 7 feet high, and edged with *Festuca glauca*, is another beautiful bed of *Coleus*, with an edging of *Centaurea ragusina*. At the back of this and other beds is a mass of Persian Lilacs, Aucubas, and other shrubs, planted in lines partly for shelter, and in front are two rows of *Iresine Herbstii*, which, at least as exemplified here, is far from being equal to the expectations formed of it as an out-door plant, being of a rusty brown. Lastly, omitting mention of some beds of *Cannas*, *Caladiums*, and *Hollyhocks*, we arrive again at the north end of the sub-tropical garden, and conclude our inspection with a semicircle of noble *Wigandias* edged with *Farfugium*.

"How are such results obtained?" is a question that will naturally be asked. How are the denizens of tropical climes fostered and made to luxuriate in a climate so much colder than their own? Certainly not without the assistance of a great amount of horticultural skill and of scientific knowledge practically applied. Mr. Gibson makes no secret of the means to which he has had recourse. In the first place, he has provided shelter from strong winds from whatever quarter they may blow by groups of trees and shrubs, most of which have been

planted little more than three years, but they have made rapid progress and the shelter which they afford will in future years be even greater than it is at present, care being taken to prevent ground currents of wind by shrubs of lower growth. In the second place, and herein lies the great secret of success, the beds are formed on what may be termed geothermic principles. The beds are all either circular, oval, or oblong—if circles the diameter is not very wide—and are so placed that the sun may warm one or other of the sides throughout the day, and the heat thus obtained is stored up in the materials on which the bed is founded, and by them given out to the soil in which the plants are growing. The site for the beds is therefore dug out to the depth of 9 inches below the level of the rest of the ground, the soil excavated being placed all round so as to form a kind of box of the same shape as the bed, but 2 feet beyond its outside, and from 18 inches to 2 feet of brickbats are put in. These at the sides form a slope of 25°, and over them a thin layer of soil is placed, and then turf. In the interior of the bed turf is laid grass-side downwards over the brickbats, and then from 9 to 12 inches of a compost consisting of loam, leaf mould, and Thames sand. Thus not only is perfect drainage secured, but the brickbats, receiving a large amount of heat during hot days, give it off to the soil at night, and, indeed, whenever the ground is colder than they are.

Long as this account of Battersea Park may seem, much has been omitted that is well worthy of notice. The objects of interest with which it abounds are so numerous, and so bold and novel the idea which has been successfully carried out, that the visitor there will be well repaid for his journey, especially if he have the good fortune to meet with its talented and most courteous superintendent, Mr. Gibson, by whom the beautiful grounds have been laid out, and to whom belongs the credit of having inaugurated in this country the new and very effective style of gardening exemplified in the sub-tropical department.

#### NOTES ON THE ST. PETERSBURG FLOWER SHOW.

ONE reason, I think, why gardeners are a superior class of men is because they are constantly taking notes. Do you ever see a gardener (I am not now speaking of the lad of sixteen, but of the gardener proper), walking in some public gardens, or in a private park, without his note-book and pencil? Rarely, unless my observations are taken from peculiar cases. I have been to many flower shows in the United Kingdom and abroad, and I have noticed with pleasure gardeners taking the names of new flowers or descriptions of exotic plants; and then you see two comparing notes or shaking their heads over some new plant, or perhaps degenerate specimen of an old one. But I am running away from my subject, which is a slight account of a St. Petersburg flower show.

I ought to say that the show I saw was the show of the season, to the best of my belief, and therefore may be taken as a fair specimen of what they usually are. It was held on the 19th of May (7th, old style), being kept open for a few days, in a large, plain, oblong building in one of the open spaces with which the town abounds.\* The entrance is at the end of the building, up some twenty steps, from which a *coup d'œil* is obtained of the entire show. Your readers will imagine my astonishment when, instead of the long stages, &c., of our English flower shows, a perfect garden presented itself to my view—beds, walks, and a lawn, fountains playing, rivulets trickling over mossy stones, statues, and everything to give the appearance of a well-laid-out and neatly-kept *parterre*. But I should begin at the beginning. Each side of the platform on which I stood was lined by tall young Spruce Firs, looking as if they were growing; the walls beyond were painted to represent massive stone walls, covered partly by moss, and very cleverly they were done; on each side of the steps descending into the garden were pillars, made to appear like ancient marble, and broken, and chipped, and mossy to aid the delusion; then vases in the same style. The walls edging the steps were also made to look old and time-worn. To proceed. I descended into the garden; on my right there was a bed of an oval shape, in front a round one, and altogether ten beds, cut out of the artificial moss lawn, each being full of the plants for show, and the card hanging on the prize plants. The plants exhibited were *Caladiums*, *Begonias*, *Palms*, all of which were fairly good. The *Rhododendrons* struck me

\* The Karavans.

as being very fine. The flowers were, generally speaking, well developed, and the plants nicely shaped and carefully grown: in these Minnie was striking, being a faint blush, with a rich golden tinge in the centre of each petal. Evelyn was almost a repetition, not so strong in colour. Mr. Standish's Perfection elicited general admiration, although I must acknowledge there were not so many gardeners proper in this flower show as you see in every English exhibition. Further on we came to some Heaths and Azaleas, nothing worth special mention. There were some fine specimens of *Arancaria exelsa* and *A. Cunninghamii*, and a handsome *Yucca* in a tub sent by a rich amateur. I believe the same plant had taken many prizes before. I noticed some Azaleas trained in the shape of an umbrella, which assuredly did not improve the plants. These, with some Camellias, Acaas, Brooms, and Ferns finished the list, which your readers will remark was but small. The arrangement of the show was the point to be noticed, not the flowers. We certainly grow the finest specimen plants of every kind, and naturally enough when the time and money devoted to the object are considered. In a corner of the building there were a collection of pickled fruits and some fresh Strawberries (at 1s. 50c. the basket, about 4s.), and Raspberries. Here was nothing worth mention. I had tasted the fruits at home at a much more moderate figure. In the corresponding corner were some ornamental pots and vases; these were made of a white clay and with rings, and altogether neater and prettier than the common red pots in use in England. They were, however, too dear to compete with the old red ones.

Facing the principal entrance was a raised platform, reached by means of wide steps flanked by Roses, Gloxinias, &c., in pots. On this platform were chairs and seats, placed so that the *coup d'œil* might be obtained, and it certainly was from this point very charming. With gaily-dressed ladies and officers promenading, and the flowers and foliage, the whole was worthy of some notice. Usually a good band plays in the building during the afternoon, but the death of the Czarewitch had put a stop to that and many other pleasures.

This is a slight and very imperfect sketch of the flower show; want of time compelled me to cut my memoranda very short, and were it not with the idea of contributing something to the pages of "our Journal" and amusing its readers, I should not have ventured so far as to present this sketch.

Whilst in Russia I made it my duty, as well as pleasure, to see the public gardens, the botanical houses, and some private establishments. If it is agreeable to your readers, I may, as time permits, attempt a further description of these.—PATELIN.

[We shall be glad if you will, for such descriptions are always interesting.]

### NATIONAL GOOSEBERRY SHOW.

THIS was held at the Sir John Falstaff Inn, Market Place, Manchester, on Saturday, the 5th inst., and we believe the Gooseberries shown on this occasion will be found to be the largest exhibited in England this season. An extra prize was awarded to Mr. Peter Daine, of Currington, who exhibited a berry of Shiner (green), weighing 31 dwts. 19 grains. This is the largest green Gooseberry ever shown. The principal attraction, however, was a cup of the value of £5, offered by Dr. Hogg for the heaviest four berries, one of each class. For this all seemed to have reserved their most choice fruit, and, after a severe competition, it was awarded to Mr. Thomas Pilkington, of Scaisbrick, near Ormskirk, Lancashire. The competitor who stood next was Mr. Moses Ainsworth. The whole of the fruit was in splendid condition, sound, and most beautifully coloured.

The first prize, a silver cup, value £5, the gift of Dr. Robert Hogg, LL.D., F.L.S., was obtained by Mr. Thomas Pilkington with the following berries, viz. :—

	Dwts.	Grs.
Red London .....	27	21
Yellow Catherina .....	32	0
Green Plunder .....	25	9
White Antagonist .....	31	7
Total .....	116	13

#### FIRST FOUR STEWARDS' PRIZES.

Charles Leicester .....	Red	Ploughboy	29	22
William Middlehurst .....	Yellow	Catherina	28	10
Nathaniel Ashton .....	Green	Stockwell	29	0
Francis Oldfield .....	White	Antagonist	28	18

#### SECOND FOUR STEWARDS' PRIZES.

Moses Ainsworth .....	Red	London	33	0
John Bower .....	Yellow	Leveller	26	20
Bradley Bradley .....	Green	Shiner	26	13
Henry Garside .....	White	Hero of the Nile	22	15

THIRD FOUR STEWARDS' PRIZES.				Dwts.	Grs.
William Saunders .....	Red	...	Dan's Mistake ..	27	1
Faithful Jameson .....	Yellow	...	Railway .....	26	0
John Torkington .....	Green	...	Green London ..	23	17
Thomas Argill .....	White	...	Snowdrift .....	22	7

#### FOURTH FOUR STEWARDS' PRIZES.

Francis Soars .....	Red	Talfourd	25	7
Samuel Bower .....	Yellow	Drill	25	13
Thomas Lanceley .....	Green	Plunder	21	9
Matthew Torkington .....	White	Overseer	22	6

#### FIFTH FOUR STEWARDS' PRIZES.

William Ridgway .....	Red	Wonderful	24	22
Daniel Bower .....	Yellow	Pern	22	19
William Gadsby .....	Green	Thumper	20	1
George Wilkinson .....	White	Carless	22	0

#### RED CLASS.

1st, Henry Garside .....	London	28	23
2nd, Nathaniel Ashton .....	Dan's Mistake	27	5
3rd, Charles Leicester .....	Ploughboy	24	18
4th, William Saunders .....	Alderman	25	6
5th, Moses Ainsworth .....	Rough Red	24	11
6th, John Henshaw .....	Wonderful	23	19
7th, William Middlehurst .....	Red Robin	23	18
8th, Henry Garside .....	Slaughterman	23	16
9th, Faithful Jameson .....	Beauty	23	15
10th, Thomas Lanceley .....	Chyton	23	5

#### YELLOW CLASS.

1st, William Ridgway .....	Catherina	27	6
2nd, William Middlehurst .....	Leveller	26	22
3rd, Faithful Jameson .....	Drill	24	18
4th, Moses Ainsworth .....	Mount Pleasant	25	13
5th, Charles Leicester .....	High Sheriff	24	11
6th, Nathaniel Ashton .....	Oldham	24	13
7th, Moses Ainsworth .....	Candidate	24	11
8th, Charles Leicester .....	Cramp	22	18
9th, Faithful Jameson .....	Leader	22	18
10th, William Ridgway .....	Peru	22	13

#### GREEN CLASS.

1st, Moses Ainsworth .....	Sir George Brown	26	18
2nd, Thomas Pilkington .....	Souter Johnny	25	15
3rd, William Middlehurst .....	Telegraph	24	20
4th, Thomas Pilkington .....	Green London	24	15
5th, Francis Soars .....	Stockwell	24	7
6th, William Saunders .....	London City	22	17
7th, John Henshaw .....	Shiner	22	1
8th, Faithful Jameson .....	Matchless	21	16
9th, Charles Leicester .....	Gallop	20	20
10th, John Torkington .....	General	20	19

#### WHITE CLASS.

1st, Thomas Pilkington .....	Careless	26	14
2nd, Thomas Argill .....	Antagonist	26	13
3rd, Nathaniel Ashton .....	Hero of the Nile	24	19
4th, Moses Ainsworth .....	Peto	24	12
5th, Francis Oldfield .....	Weasel	22	19
6th, William Middlehurst .....	King of Trumps	22	12
7th, Henry Garside .....	Freedom	22	6
8th, John Henshaw .....	Overseer	21	10
9th, Faithful Jameson .....	Lady Leicester	20	22

#### EXTRA PRIZE.

Peter Daine .....	Green	Shiner	31	19
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#### SEEDLINGS.

##### RED.

1st, John Orchard .....	Bob Clifton	24	10
2nd, Thomas Ball .....	Major Townsend	22	6
3rd, Charles Leicester .....	Falstaff	21	22
4th, Joseph Bass .....	Gladstone	21	10

##### YELLOW.

1st, William Lowe .....	Lady Houghton	21	6
2nd, Francis Soars .....	Sir Robert Clifton	19	16
3rd, James Boardman .....	Ely	19	7
4th, James Fisher .....	Old Man	19	2

##### GREEN.

1st, Samuel Bird .....	Gladiator	19	23
2nd, George Waller .....	Honesty	17	12
3rd, Charles Leicester .....	Ranger	17	0
4th, Joseph Nuttall .....	Cripple	17	8

##### WHITE.

1st, Thomas Pilkington .....	Success	22	12
2nd, Charles Leicester .....	Regent	21	7
3rd, Francis Oldfield .....	Charley	19	19
4th, Charles Leicester .....	Succeed	17	5

### GROUND VINERIES.

It appears to me that in the construction of these there is a slight mistake in not providing ventilation, however small the



amount, at the top of the case. I would suggest a small louver board, say 4 inches wide, hung on a pivot in the centre, and running the entire length of the case. If it opened an inch at the top and bottom that would be quite sufficient, and the top part of the louver board should butt up underneath a lap in order that the wet may be carried off. I am induced to send you these remarks from having visited the excellent kitchen garden of Mr. Heywood at South Norwood, who takes great interest in ground vineries; but although he has followed out your instructions as given in No. 28, the whole of his Grapes inside these cases are scorched. This result I attribute to the moisture arising from the earth condensing on the berries, and in dull mornings the sun bursting out with sudden force upon the glass and stagnant air inside. The pigeon-holes in the bricks upon which the case is placed receive air that has passed along the ground only, and therefore laden with moisture, but ventilation at the top would create a current and dry the berries before the sun's rays struck directly on them. We know how beneficial this is for large vineries. A little air should be given at six o'clock in the morning, and the cases taken off at mid-day. For my own part I consider it a mistake to place the cases so low, they should be raised upon some dry material that would filter the air before it reached the inside of the case.

There can be no doubt that cordon training of the Vine is a great success, in this instance there were several cordon Vines not under cases completely covered with bunches, some of which, if they come to perfection, may average from 2 to 3 lbs. I forgot to inquire of Mr. Heywood if the Grapes ripened last season, but I have no doubt he will readily answer that, or any other inquiry your readers may wish to make through your Journal.—F.

## ROYAL HORTICULTURAL SOCIETY.

AUGUST 8TH.

**FLORAL COMMITTEE.**—The meeting held this day was a very interesting one. There were 124 entries of plants and flowers for examination, and among them were some very good things. The magnificent specimen of *Lilium auratum*, with twenty-nine flowers upon it, was alone worthy of a journey to South Kensington. Some idea can now be formed as to the character and value of this superb Lily. The seedling Hollyhocks were also very good, considering the hot and dry season: the only thing wanting was the Fellows to see them. It will be well for those members of the Society who are still in London to remember that, although the fashionable world is out of town, flowers and fruit are still to be seen at the Floral Committee meetings. Florists' flowers are now very numerous. Seedling Dahlias, Hollyhocks, Scarlet Pelargoniums, Verbenas, &c., are now in perfection, and are sent for examination to have their merits or demerits assigned them.

Many certificates were awarded at this meeting. Mr. Bull exhibited *Aucuba japonica* medio-variegata; *Spherozyne cinnamomea*, which was awarded a second-class certificate in June last; *S. ferruginea*—second-class certificate; a variety of *Lilium auratum* called *picum*, one of the red-banded kinds; and *Verbena Fascination*, a white flower striped with dark red. Mr. Osborn, Fulham, sent cut specimens of *Rhexia virginica*, *Gaultheria Shallon*, *Castanea pumila*, *Sophora japonica*, and *Cerasus rubra*, bearing numerous bunches of dark brown berries. Mr. A. May, Fulham, sent a specimen of *Omyntia vulgaris* grown in a window; the plant was covered with fruit, and had a very singular appearance. Messrs. Downie, Laird, & Laing sent a collection of cut flowers of Hollyhocks, and four seedlings shown in spikes; Charles Eyre was awarded a first-class certificate, Mrs. B. B. Todd, a second-class certificate. The Rev. G. Hawke sent three cut flowers of a seedling Hollyhock, *Senior Wrangler*, a very fine variety, dark chocolate with a reddish tinge. It was awarded a first-class certificate. Mr. Porter, Epping, sent a collection of Hollyhocks, and four spikes of seedlings—*La Brillante*, *Shirley Hibberd*, *Volunteer Improved*, a seedling of 1864; and John Laing, a light rosy carmine, fine full flower—first-class certificate. Mr. Chater, Cambridge, exhibited a collection of Hollyhocks and five seedling *Zonale Pelargoniums*. Mr. W. Chater, Saffron Walden, sent a collection of Hollyhocks containing many of the best varieties, which was awarded a special certificate. He also sent nine seedlings shown in spikes—*Firefly*, a deep bright crimson—first-class certificate; *Hebe*, a pale silvery blush with deep rose centre—second-class certificate. The others, which were good flowers but not specially noticed, were *Nymph*, *Favourite*, *Desdemona*, *Orange Boven*, *Gem of Yellows*, *Aurantiacum*, and *Alice*. Mr. Chater's seedlings are not equal to those of 1864, but doubtless the hot and dry weather has had its influence upon them. Mr. Thompson, Ipswich, sent *Palafoxia Hookeriana*, a dull pink half-hardy annual, producing clusters of composite flowers—second-class certificate; and *Pectis angustifolia*, a dwarf, flowering annual with yellow composite flowers, the foliage strongly scented like Lemon Thyme, useful for bedding purposes—first-class certificate.

Mr. Apted, Galton, sent double red *Fuchsia Victory*. Mr. Veitch sent *Dendrobium tatonense*, from Australia, exhibited at the last meeting—second-class certificate; also *Cattleya Sidneiana*, a hybrid between *granulosa* and *crispata*; and a *Cattleya*, probably a variety of *Mossiae*, with pale lilac flowers having a beautifully marked purple lip—first-class certificate. Mr. Veitch also exhibited the fine specimen of *Lilium auratum* grown by Mr. Constantine, gardener to C. Mills, Esq., Hillingdon, which was awarded a special certificate, and recommended by the Committee to the Council as worthy of a medal for good cultivation.

Mr. Davies, Bath, exhibited a seedling *Pelargonium*, said to have been grown from seed sown in March last, and now in flower. There must surely be some mistake in this statement. Mr. Williams, Holloway, exhibited several variegated *Zonale Pelargoniums*; they were very good, but it was requested they should be seen again to be compared with others. They were *Miss Eleanor Scott*; *Parity*, with a very white margin; *Mrs. Spicer*, and *Sally Miller*. He also sent an *Orchid*, a species of *Brassia*, probably *canadensis*, with a spike of very fine flowers. Mr. D. Windsor, gardener to J. R. Ravcunhill, Esq., sent five seedling *Zonale Pelargoniums*—*Gladiator*, deep salmon; *Brightness*, scarlet with white eye; *Modesty*, white with salmon centre; *Great Eastern*, scarlet; and *Sir Robert Peel*, a bright orange scarlet, compact truss, and good firm petals; they were awarded a first-class certificate. Mr. G. Smith, Hornsey, sent double red *Fuchsia Gladiator*, dark corolla, bright crimson sepals. Mr. Cripps, Tunbridge Wells, sent the new *Coleus Verschaffelti aureo-marginatus*. We hear this golden margin does not last when the plant is grown out of doors. He also sent double scarlet *Pelargonium ranunculiflora plenissima*. These double varieties have never yet been exhibited in a condition to deserve the slightest commendation. *Zonale Pelargonium Lady Caroline Neville*; and *Lilium auratum*, a variety with a pale red band were likewise shown by Mr. Cripps. Mr. Turner, Slough, contributed two seedling *Phloxes*—*Edith*, white with crimson centre, a very finely formed and beautiful flower—first-class certificate; and *Phlox Herbert*, dark rose with shaded centre. He also sent *Dahlia Ely*, orange buff tipped with carmine; and a collection of *Lilium auratum*, containing several beautiful and distinct varieties—the finest collection ever yet brought together. It was awarded a special certificate, and was recommended to the Council for a medal. A very fine specimen of *Anthurium cordifolium* from the Society's garden, one of Mr. Weir's plants, well grown, was exhibited. It was awarded a special certificate.

Messrs. Garaway sent seedling *Zonale Pelargoniums* *Queen of Tricolors*, a stronger-growing plant than *Sunset*, of better habit—second-class certificate; *Bronze Queen*, *Ophir*, *Unique*—second-class certificate; *Princess Lichtenstein*, and *Volunteer*. Mr. Dijkman, Haarlem, sent over some seedling *Gladioli*, hybrids from *Gandavensis*, far behind the flowers of the present day. Mr. Townsend, Hornsey, sent two varieties of *Lilium* from Japan. Mr. Press sent *Calceolaria Gem*, dark ruby; and *Calceolaria Fascination*, yellow ground, with dark crimson blotch. Mr. Hopkins, Brentford, sent seedling *Dahlia Lord Enfield*, deep claret, a very promising flower. It was requested that it should be shown again later in the season. Mr. Wills, Oulton Park, sent a cut spike of an *Epidendrum* which had never before flowered in this country. It was awarded a special certificate. Mr. Tillery, Welbeck, sent a seedling *Gladiolus*, bright scarlet, with a white centre, very pretty, but neither new nor distinct. He likewise sent *Lilium auratum gloriosum*, an inferior red-banded variety. Mr. Perry, Castle Bromwich, exhibited a collection of very fine *Verbenas*, which received a special certificate; also several seedlings. These were *Verbena Cleopatra*, a very deep bright rose, very fine truss, with extra large flowers—first-class certificate; *William Dean*, deep maroon, the finest *Verbena* in this shade of colour—first-class certificate. There were five or six other good flowers, but not new or distinct. Mr. Perry also exhibited seedling *Dahlias Modesty*, pale lilac, tipped with a darker shade; *Miss Powell*, a striped crimson or red variety; *John Powell*, a deep yellow, a promising flower; and *Carnation*.

In the report of the Floral Committee, July 25th, in speaking of a drawing of Mr. Cutbush's *Lilium auratum* which was exhibited, it is described as having dark red leaves, it should have been dark red bands, terminating in yellow.

**FRUIT COMMITTEE.**—Mr. G. F. Wilson, F.R.S., in the chair. Mr. Rivers sent an interesting collection of miscellaneous varieties of fruit, consisting of *July Green Gage Plum*, a very early variety of *Green Gage* ripening in July. It is in every respect similar to a good, medium-sized, and highly coloured *Green Gage*, very richly flavoured, and the flesh separating from the stone: a very valuable early Plum. *Bacay's Early Gage*, another form of the *Green Gage*, a shade larger than *July Green Gage*, but not so early nor so highly coloured. It is a most delicious Plum, and is distinguished from the former by its flesh adhering very closely to the stone. *Roine Claude de Berger* is not a *Gage Plum* at all, but synonymous with the *Peach Plum*, for the confirmation of which Mr. Rivers sent both these varieties to compare. *Minsterworth Plum* is a variety much grown about *Minsterworth*, near Gloucester, and appears to be synonymous with *Damas Violet*. It is a great bearer and a good, early, black, market Plum. *Cluster Damson* is a very prolific form of the English *Damson* grown about Stroud. It was of course still unripe, and was sent to show the great fertility of the sort. *Dragon's Yellow Bigarreau Cherry* is a fine large *Bigarreau* of clear sulphur yellow colour, far superior in size and flavour to

Buttner's yellow or Lady Southampton's. *Rival* is a valuable late black Bigarreau of medium size, somewhat larger than Belle Agathe, with which in its lateness it forms a good companion. It hangs till the end of August and beginning of September, is a profuse bearer, and a fine late Cherry. This was awarded a first-class certificate. *Late White Heart* is also a small late Bigarreau of a pale colour, about the same size as *Rival* and Belle Agathe, but inferior in flavour to both.

Mr. Rivers also sent a portion of a bunch of Duchess of Buccleuch (trape to show, as Mr. Rivers stated in his communication, that the berries of this variety are subject to crack and rot, while the White Frontignan in the same house exhibits no such tendency. Mr. Rivers sent, also, fruit of Williams's Favourite Apple, an American variety.

Messrs. Garaway & Sons, Bristol, exhibited a seedling Ridgo Cucumber, which received a first-class certificate. The fruit was from 16 to 18 inches long, and were remarkably fine specimens of out-door culture.

Messrs. Osborn & Son, of Fulham, sent branches of *Prunus padus* fructu-rubra in fruit, and *Gaultheria Shallon* in fruit.

## THE RIPENING OF OUT-DOOR FIGS.

The ripe Fig noticed by "H." (page 91), is thus explained. In the axil of each leaf is formed a fruit. As winter approaches these fruits are seen of various sizes, from nearly full-grown specimens on the lower part of the shoot, to the size of a pin's point at the upper extremity. The more advanced are killed by the frost. The smaller survive. It is generally said that if under the size of a hazel nut they are secure—i.e., with moderate protection.

It will thus be seen that the security with which an embryo Fig passes through the winter is inversely as its size. If, under favourable circumstances, one a little larger than usual passes through the winter unscathed, of course it ripens earlier. Such was the Fig noticed by "H." In my garden, far north of Undercliff, I had a similar Fig on the 1st of August, and in a previous year had one on the 31st of July.

I was at Bonchurch last June, but had not the *entrée* of Dr. Leeson's grounds. Those Fig trees, however, which I saw in the Undercliff, were remarkably void of fruit. With natural advantages apparently far superior to Tarring, I was surprised to find the produce so inferior in quantity.—G. S.

SEEING it stated at page 91, that "H., *Ventnor*," had on the 21th ult., gathered and eaten a fully ripe Fig from a tree in the grounds of Dr. Leeson, at Bonchurch, as fine as he or she had eaten in Jersey at the end of August, I may mention that I had sent me on the 26th ult. (two days later than the above date), a pair of ripe Figs as fine and luscious as ever were eaten. They came with the dairy produce which is sent every morning from the farm of our worthy manor bailiff, and on Saturday the 29th, they were followed by a basket of the same—splendid, bursting, purple fellows, "a banquet for the gods." Not taking notes of these things, I was not aware that it was at all out of the usual course. If earlier than usual it is probably owing to the very fine summer we have had. At all events we have not had to wait until the end of August for our ripe Figs this year. I know the tree well from which these Figs were gathered, and I believe all the care that is taken of it is to prop up the branches.—A. T., *Noirmont, Jersey*.

## HEATING AND VENTILATING A GREENHOUSE.

In my former home I used to look after the garden, but we had a gardener who, of course, took his own way; now, I find myself with a large vegetable garden, a lawn, and flower-beds, I have made a porch, and have a greenhouse in course of construction. The garden is all in my own hands, with a boy for constant work, an itinerant gardener occasionally, and the men from my husband's farm when I want them.

What I particularly want to know is, how to heat the greenhouse? It measures 18 feet by 12, adjoins the house, faces the west, and has a south end, but that is rather blocked up by farm buildings within 20 feet or more. It is span-roofed, with fixed sashes and rather slight rafters, as described in "Greenhouses for the Many," the door is in the middle of the front, and there are three sashes on each side of it, all of which open, being hinged from the top. There is a potting-room at the back of the greenhouse, but not high enough I imagine to have

ventilators into it, as the wall only rises as far as the beginning of the span-roof of the greenhouse. A door opens from the greenhouse into this potting-room, which door is at the back, close to the south end. Shall I put ventilators in the south end at the top of it? The roof, south end, and west front are all glass except the 24-feet brick wall.

My second question is about heating. I was going to have a portable stove; but as the north end adjoins the house, and has at its back a fireplace where a fire is kept almost constantly, even in summer, it would be easy to put in a boiler and hot-water pipes, and it seems to me that it would be a good plan to run these pipes only round one end—that is to say, from the boiler under a corner stage at the west, and along the front shelf as far as the door, and back again to the boiler, then again from the boiler to the east corner, perhaps in a rockery for stove Ferns, and along half the east side under a shelf, and back to the boiler.

It appears to me that over my boiler I could have a place for propagating, that my warmed front shelf, which I could make a box or tray, would do for *Gardenias*, *Gloxinias*, &c., and the other and darker side would grow Ferns, &c. Then, I think, the centre stand, south shelf, and half the western shelf would grow *Geraniums*, &c., and I have an idea that I might by moving them have Vines in pots.

Being an invalid and not able to drive or go about, I can give more attention to my plants than other people, and I also turn my maids into under-gardeners! I should say, that I mean to have against the 24-feet brick wall of the south end of the greenhouse, a cold pit for storing bedding plants, &c. Will it do in that position?—O. D.

[We can well enter into all your little troubles and difficulties, as, independently of the extra claims to notice, as being somewhat of an invalid, you occupy just one of those positions in which we would wish to be serviceable if we could. We are certain that all your attempts to improve your garden, if you prudently do not overwork yourself, will not only improve your health, but vastly increase the comforts of your home. We have known men of rather sedentary habits, hard-thinking, intellectual men, who lived and procured the means for their family to live, by the hard work of the brain, who, after suffering dreadfully from neuralgia and various nervous affections, that made them appear in their studies as if they had taken farewell of their senses, after trying everything else, found complete relief and freedom from distracting pains through working in the garden. One of these gentlemen told us that his garden had been his great physician. "Whenever I feel the least signs of the hypos, the sure forerunner of the tic, neuralgia, &c., I shut up books and papers and off to my garden, and delve, hoe, rake, &c., as if my living depended on it; and now, since I have taken a regular spell night and morning, I have been able to say adieu to my kind worthy physician. I am sure there is a fund of health in the fresh-turned earth, and the balmy air of early morn." We have told and told of such cases, until many friends, male and female, have had reason to tell us since, "Ah! the garden was our best doctor." So may it prove to our correspondent.

Only the other week we disanted on the causes that naturally rendered so many of our farmers careless about their gardens, especially the ornamental department, and that where appearances were very different, these appearances generally might be traced to our best friends the ladies. Now, here, as if to corroborate our words, is a lady, a wife of only five months' standing, keenly attentive no doubt to her household duties, and yet resolved to make use of her newly-acquired powers and opportunities to manage her large garden herself, with the help of a boy constantly, a jobbing gardener at times, and men from her husband's farm when she wants them. Now to the questions.

1. As to *ventilating* the house. As all the front sashes are made to move, we would, as you propose, have a part of the south end made to open—say a triangle of some 2 feet at base, and the same in height to the apex, and just beneath that point two or three small squares made to move would have the same effect. These in a common greenhouse might be fastened open night and day from the middle of May to the middle of October. Between these two periods they would have to be regulated according to the heat of the weather, keeping in mind that in cold weather in winter the ventilation would be safer by such openings than by the front sashes, and especially in the south part of the house, where you propose having no heating medium. So much for the south end. Now, if you had a space to open on the north end of your span, though not



more than 18 inches square, in such a short house of 18 feet, and even if in cold weather you opened each of these merely a few inches, you would secure at all times a sweet atmosphere, and prevent anything like scorching or burning from accumulated vapour. As already stated, they might stand open all the summer, and very little air given early in the day in cold weather, would prevent alike the evils arising from a stagnant or a moisture-laden atmosphere, and those different evils which come from allowing great draughts of cold air to pass at once among somewhat tender plants, which would be apt to be the case from a free use of the front sashes in winter.

If not convenient to make this opening at the apex of the north end, the next best plan would be to have an opening 2 feet by 1 foot at the top of the wall and the north-east corner of it, which separates the greenhouse from the potting-shed. If there were any objection to the ventilation in the south end, we would fix just such another near the doorway at the south-east corner. With the door or the window of the potting-room open in summer, and a little open, except in cold nights, in winter, the ventilators at the top of the back wall where the span springs from would be quite enough for ventilation, whether formed of hinged board, or swung on pivots, or of glass in a frame. These, too, we would leave open all the summer, and in winter, though less would be required, more air could be given than if the opening went at once into the open air, as the air in the potting-room in winter will be more mild, though, if the place is kept clean, it may be equally pure with that of the open atmosphere. Such ventilation into such places has much to recommend it in the case of beginners, as more air may be given and still less danger be incurred from cold dry draughts in winter.

2nd, *Heating*.—The ease and propriety with which you may manage to heat the house, from a fireplace in the room at the north end of it, will depend on the relative heights of the floor of the greenhouse and the floor of the sitting-room, or rather, more correctly, on the height of the little boiler around the fireplace, and the height of the pipes inside. Sad errors have been made in this respect—no doctoring or management can make the water that is heated in the boiler descend and circulate in pipes below the level of the boiler, unless, indeed, in some peculiar cases, when pipes at some distance rise to a much higher elevation than the boiler. If the boiler has an open lid, the upper pipes should be on the same level as the top of the water in the boiler; the pipes must not be higher, or the boiler will overflow. If the boiler is close on the top, and is either fed by an elevated cistern, or by a cistern placed on the highest point of the pipes, then the pipes may run in the house at any reasonable height above the boiler, provided no part is higher than the supply-cistern—in fact the action will be all the better if all the heating pipes, flows and returns, are on a level above the top of the boiler, unless at that point where the return joins the bottom of the boiler.

We are all the more particular on these simple points, because the neglect of attending to them often results in disappointment, and the blame is not always placed on the right person, as we sometimes know to our cost. Not so long ago we were told somewhat bluntly by a gentleman that he got into a scrape through us, when he did not succeed satisfactorily because he totally neglected these simple matters as to levels. A gentleman, partly by our advice, heated his neat conservatory adjoining the drawing or sitting-room from his kitchen boiler. The kitchen floor was at least 12 feet lower than the conservatory floor. The kitchen boiler was close on the top, supplied by a cistern and ball-cock higher than the floor of the conservatory. The connecting pipes from boiler to conservatory were of 1½-inch lead, and packed mostly in sawdust, in a neat wooden trough against the wall. The floor of the conservatory (span-roofed) was 4 inches lower than the floor of the drawing-room, and the same depth lower than the sill of the door that opened out on the little garden. We do not advocate this lowering of the floor in general circumstances; but here it answered by simplifying the heating, which was done by three-inch pipes, three in the front, and two at the back, going all round the house on the same level, and close together, and a neat piece of iron grating going over the pipes at the doorways, thus forming a step-down of 4 inches in depth. The other gentleman resolved to do the same thing from his kitchen boiler; but then the kitchen boiler was some 5½ feet above the floor of the conservatory, and, after a deal of worry and trouble, they found that all would be unavailing unless they fixed the pipes at that height against the walls of the house, where they not only looked ugly, but did the work wanted very

imperfectly, making the floor of the house too damp and cold, and the top, near the apex of the lean-to house, far too hot in general. Let the heating medium be low enough, and stagnation of air in a house is next to impossible. We have not the same faith in the applications of heat where the heating medium is as high as our heads. The last accounts we heard of this mishap, or next to it, because the owner wanted a propagating-bed from a part of the pipes, was to the effect that the pipes were to be taken down, and to be connected with a small boiler in a lean-to shed potting-house, where at first we would have advised its being placed.

This leads us to say that, if, from the position of the fire in the room, there should be the above difficulty as to level, it would be the safest plan, if the floor of the potting-room was all that lower than the conservatory, or if it was easily practicable, to sink a stokehole deep enough; then pipes could be taken all round the house, stopping at the two doorways, and be placed on the floor, if deemed necessary; or, what we consider would be the most economical in such a house, a small five or six-inch shallow flue could be carried round below the tiles of the floor, if such a floor were resorted to. The advantage of having a fire here would be the independence of the lad that lighted the fire of all house servants, and their systems of management, which, somehow, do not often square well together. This last matter would be got over if the boiler could be suitable in the room at the north end; all that will be required will be to keep the boiler supplied with water, and a tap in the greenhouse to let the heat on when desirable.

Unless you place more than two four-inch pipes at the north end, and for less than a half along each side, we fear you will not have heat enough to keep out much frost at the south end, though, perhaps, quite enough to meet all that is generally prevalent near Cork in winter.

In such a short house as 18 feet in length, you will, we fear, fail to keep one end as a warm house for tropical and sub-tropical plants, whilst the unheated end would be devoted to the hardier greenhouse plants, requiring more air and a colder atmosphere. In such a space the heat would be apt to become uniform, unless, indeed, you made a division in the house, and then nothing would be more easy. Without that division you would find it equally difficult to make a propagating-box or pit over the pipes at the heated end, or to grow Gloxinias, &c., unless you shut in part of these places with cases covered with glass. With such contrivances as shallow boxes, covered with a pane or panes of glass, and moveable at pleasure, set on a bed formed over the pipes, the pipes being placed in a chamber, or packed round with stones, brickbats, &c., you might grow in them, and do in them, anything that could be done by more expensive cases. You could likewise readily harden-off gradually by giving more and more air to the cuttings, plants, &c., in these little cases, hand-lights, and then place them in the colder end of the house. Moreover, by having three pipes instead of two, where you would want most heat, you could have a few openings at the side to let the heat out, and then, whilst securing heat to your more tender favourites, you could also borrow enough from the pipes beneath, by slide or otherwise, to keep frost and extra cold from the unheated part of the house; but, without such contrivances to keep in the heat about your tender plants, we have no faith in your keeping distinct atmospheres in such a small house. A few simple wooden bottomless boxes, with a large square of glass at the top, would enable you to do wonders. Were the glass top, whether a simple square or a pane, moveable, you could then turn it in an instant—a matter of moment with young seedlings and cuttings.

3rd, As respects your Vines in pots, we are of those who believe that there are ladies by whom the word "impossible" is thoroughly unrecognised. Meanwhile, we would say, "Let well alone;" and if you would entice your spouse by a cluster of Grapes as he sits under his own Vine, we would advise you to plant two or three at the west front of the house, close to the flower-borders; they will give you less trouble, on the whole do better, and, if only two or three, will yield a nice shade to the house in summer. Too much, of course, would spoil and draw all plants beneath them. We shall never forget when, in our young days, we had Cucumbers, Melons, stove plants, Vines, Figs, and Peaches in one house, and that a steep lean-to, the late Joseph Knight, Esq., the predecessor of the present Mr. Veitch, looking very comically at us, and saying, "Why, you will beat nurserymen in cramming." We have always had enough of cramming much in little space; but here we advise no one to follow our example.—R. FISH.

## RUSSIAN VIOLET THE CZAR.

This fine flower was raised by F. J. Graham, Esq., of Cranford, and obtained first-class certificates in 1865 from the Royal Horticultural and Royal Botanic Societies for its mag-

nificent flowers and foliage, the plants exhibited being grown in pure loam without liquid manure.

The flower is of a deep blue colour, of great substance, at-



taining  $1\frac{1}{4}$  inch in depth, and on very stout footstalks 9 inches long. One of our highest authorities has publicly said of it, "The Violet is evidently a genuine seedling, and not only is the plant remarkable for its extreme luxuriance, but the smell surpasses that of any other Violet I have ever met with." Some

of the plants in pots produced 130 flowers to a root, and others had two flowers on one stalk.

The accompanying engraving of the flower was measured by compasses. The leaf is accurately copied from a tracing from life.



## WORK FOR THE WEEK.

## KITCHEN GARDEN.

CLEARING off all crops as soon as they are exhausted, and the destruction of weeds, tend not only to improve the appearance of the garden but are actually, with reference to the soil, of economical importance. *Broccoli*, the latest crops should now be planted out, if not yet done. *Cabbage*, another sowing may be made in the end of the week to remain in the seed-bed during the winter. A late sowing sometimes comes in very useful; also, make a sowing of Red Dutch for summer use. *Cauliflower*, make a sowing in the end of the week, for plants to stand the winter. The Asiatic is a large and excellent sort for this purpose. *Celery*, previous to earthing-up the first time give the trenches a thorough watering, as the plants will not receive much benefit from waterings afterwards. The earthing-up should be carefully done, the whole of the leaves being kept close together at the time. *Cucumbers*, the lights may be drawn off those that are in frames during gentle showers of rain, but not when it is sufficiently heavy to injure the leaves. Gather Gherkins for pickling. *Dwarf Kidney Beans*, keep the crop closely gathered, for if allowed to remain until they are too old for use they cease to bear as they otherwise would do. *Lettuce*, sow largely for standing through the winter. The Brown Cos, Black-seeded Bath Cos, and Hardy Hammer-smith, and Brown Dutch are the best sorts for sowing at this season. Plant out from the late sowings for autumn use. As regards prescribed periods of sowing, it is advisable to study both the soil and locality of a garden, that its advantages and disadvantages may be understood. There are localities where it is necessary to deviate considerably from ordinary practice to meet peculiarities. *Onions*, pull up and house those that have done growing. If the main crops have long necks the tops may be broken down; if not, there is no advantage in doing so. *Radishes*, make another sowing of Black and White Spanish, and also of the Turnip-rooted sorts. *Tomatoes*, let the most forward of the fruit be fully exposed to the sun. Remove some of the leaves which shade it. Keep all the shoots stopped immediately there is sufficient young fruit on the plants.

## FRUIT GARDEN.

The preservation of wall fruit from birds and insects should receive attention. The bean-stalk earwig-traps should be frequently examined. Worst of other small-meshed netting may be employed with advantage to protect Green Gage or other Plums. Look carefully over Peach and Nectarine trees, and remove nails that are too close to the swelling fruit. In stopping and arranging the wood let only as much as can be conveniently laid in be allowed to remain, and the quantity laid in should also be greatly regulated by due consideration for the perfection of the fruit and the proper ripening of the wood, which only the influences of sun and air can accomplish. It is also an error in another respect to retain a large amount of wood to be removed in the winter pruning, as undue excitement and extension is given to the roots, which, with a superabundant supply of sap, induces in the spring the growth of rank and unmanageable wood. Pear shoots which have been left or only partially shortened, should now be pruned back to three or four eyes. Proceed with Strawberry planting. Remove runners from established plants to relieve and strengthen them.

## FLOWER GARDEN.

Hollyhocks, Dahlias, and herbaceous plants must be made safe from the effects of high winds, by securely fastening them to their supports. The like attention should be paid to climbing plants against walls and trellises, standard Roses, &c. There is an appearance of negligence when plants are blown about by the wind, which should by all means be avoided. Remove daily dead leaves, bloom, and litter of all kinds, and frequently sweep and mow grass to give a clean well-kept appearance. Gravel walks should be frequently rolled during heavy rains to keep them firm. The general pruning of evergreen shrubs should now take place, reducing straggling growths within proper limits, but avoiding giving them anything of a formal character. The object is to assist, not deform, nature. By this the general characteristics of each plant will be as much as possible preserved. The case is different in pruning shrubs used as architectural embellishments, which will require trimming into the precise figure wanted. Cutting hedges should now be finished, using the knife for large-leaved plants. Keep the shrubby borders clean by frequent dressings.

## GREENHOUSE AND CONSERVATORY.

Should the weather continue unsettled it will be an advantage

to many delicate plants to introduce them early into the greenhouse. It is better always to anticipate an evil by precaution, than to supinely await its arrival. We shall soon have short, sunless, damp days, and long nights, therefore look over the stock of pot-plants, and see that none of them are suffering for want of pot-room, or other attention necessary to assist them to make young wood for flowering next season; also see that proper care is afforded any late-growing plants in the borders, for while in active growth much more water will be necessary. Large old specimens of *Camellias* should not be allowed to become too dry at the root after they have set their buds, for this is what generally causes them to drop their buds—a source of frequent complaint. Young vigorous plants, however, frequently require to be watered rather sparingly at this period, to prevent their making a second growth. *Cinerarias* for early flowering should now be growing freely; attend to these with shifting, &c.

## STOVE.

Many of the hardwooded spring-flowering specimens, when kept growing late in the autumn, when there is not sufficient sunshine to properly ripen the wood, seldom flower strongly; therefore give every encouragement to such as have not made their growth, and use the shading very sparingly after this time. The twiners here will now be in their glory. Keep them well supplied with water at the root, and give frequent attention to regulating the shoots and disposing the blooms in the most effective manner. *Allamandas* are fine plants for pot culture, but to have them in perfection they must be planted out in the border of the stove, and tramed to the pillars or back wall, where they flower magnificently during a great part of the year. The brilliant *Clerodendron splendens*, the *Combretums*, *Echites suberecta* and *splendens*, *Stephanotis floribunda*, and many other first-rate plants, do splendidly when treated in the same manner, and trained near the glass.

## PITS AND FRAMES.

Propagation of stock for next season must be commenced and carried on with expedition, so as to secure well-established plants before winter, and without the necessity of keeping them so close or warm as to induce weakly growth. It cannot be too often repeated that, to be able to winter bedding stock safely with ordinary care, the cuttings should be put in sufficiently early in the autumn to allow of their being well established, and fit to be exposed to the open air by the end of next month. Begin with variegated *Geraniums*, and such plants as are found to be most tedious to propagate and prepare for winter.—W. KEANE.

## DOINGS OF THE LAST WEEK.

## KITCHEN GARDEN.

HAVE been busy taking up *Potatoes*, and putting in strong plants of winter greens in their place. The *Potatoes* in open ground, and untrodden on in securing plants between the rows, have been an extraordinary crop, literally covering the ground with tubers. We have tried nearly all plans with *Potatoes* and winter greens, and now chiefly approve of the system of pricking out the greens in an intermediate-bed, and taking up the *Potatoes* before cropping the ground. When greens of any sort are planted between the rows the ground is trodden in planting and watering, and it is rarely that the crop comes so nice and regular afterwards as it does on cleared ground. Of course such observations do not apply to those large gardens where gardeners can keep quarters in fallow until they turn out their winter vegetables. In few gentlemen's gardens can this be done, the demand being so much greater than the ground allotted for the supply; in no cottager's garden would it be advisable to pursue the fallowing system. Treat the ground kindly. Stir it well. Give the crops when growing all diluted slops and sewage, and it will scarcely ever say, "Hold, enough." In market gardens it is generally most profitable to have quick-rotation crops, and only one crop on the ground at a time; but then a piece can there be cleared at once and sent off to market. The gardener, on the other hand, must have a regular daily supply. A cartload, or even a barrowload, of any one vegetable at one time is rather a misfortune than otherwise, unless the establishment is so large as to need it all on one day, or the material will keep like *Potatoes* or *Carrots*. One of the best growers of *Broccoli* in this neighbourhood, and who finds that its culture pays him well, gives each plant a yard of ground—that is, they stand a yard apart each way, and little else is taken from the ground for the season.

This is another proof that plenty of space is, instead of wasteful, the most economical in the end. The labour now spent so often in moving plants from house to house and place to place before they reach their final resting-place would soon put up separate houses for such purposes, and the labour of frequent moving thus be saved. As we are on Potatoes, we may mention that in our limited room we find it most economical to grow Ash-leaved and its several improvements, as Early May, a beautiful Potato, Early Frames, Early Shaws, &c., chiefly because they make small tops in comparison with their tuberous below ground. In some cottage gardens we noticed lately some kinds of Rough Reds, and other sorts, with the haulm fully 5 feet in height; and the drawback to these is that generally they are so long in ripening that the winter greens are late in being put out, and planting between the rows is out of the question. Except in a frame, where the soil was too sandy and light, we have as yet met with no trace of the disease.

**Cabbages.**—The first sowings, owing to the rains, are becoming quite strong enough to stand well through the winter. The second sowing, though protected with a mat and net to keep out all marauders, came very thin, and we were half inclined to think there must have been something wrong in the seed; but to teach us clarity as respects our seedsmen friends, we find a succession is now coming up quite thickly, and it will answer our purpose better than if all had come together. We shall sow a pinch more for spring planting if we do not plant them in autumn.

It is now a good time to sow Red Dutch, for next year's pickling, in cold stiff soils. Savoy and Scotch Kale may also be sown to come in early next season; these, especially on north aspects, will be much earlier and yield a heavier produce than those sown in spring, in April and May. Scotch Kales are sown largely in Scotland for this purpose, and they are used there in early summer in a way they are rarely used in England. As the plants grow freely, even when they are of no great size the cottage housewife goes into her garden and cuts away about the half of the largest leaves, leaving the other half on the plant, so that but little check to growth is given. These parts of leaves are then divided into several pieces, and when placed in boiling broth, of which barley dressed and meat form a portion, the mess of savoury food turned out is what a king might well admire. These cut leaves are very tender, come in before the early Cabbages, and are popularly termed "stewings." These greens are little used in England until they have a little frost, but the stewings need no frost. The Scotch cottager has much to learn in gardening and cooking matters from his neighbours south of the Border; but in this one respect we think the southerners may take a lesson. There is just this to be suggested, that in the warmer climate such Berecotes if sown too early would be apt to run to seed early in summer, instead of continuing to grow on in bulk.

**Cauliflower.**—Sowed a little seed, but for next year's first crop prefer sowing in September, as then there is little chance of the plants bolting in winter or early spring before they come to any size. For general cropping nothing we have found beats the London Market. The Frogmore Forcing and some others are more compact, and stand a little forcing better, and are therefore better for pots. Kept planting out on spare ground, and will do so for the month, the latest to be taken up and protected.

**Spinach.**—Sowed the main winter crop on open ground well stirred and enriched, in rows 15 and 18 inches apart. In shady places, and confined for air, it is apt to damp off and become diseased in winter. Where it is much in demand the surface of the ground if at all stiff must be well stirred in winter. The surface-stirring is the great and simple safeguard against the evils arising from damp and also from frosty weather. The Prickly Spinach is the hardiest.

Sowed successions of Turnips, Radishes, and Lettuces, Onions for standing the winter; and planted out successions of Lettuces, Endive, &c. A good plan for late Endive is to throw the ground into broad ridges a yard or 4 feet from furrow to furrow, and then plant on the sides of the ridge, about an equal distance from the apex and the furrow. In such positions the plants often stand all the winter with but little protection, though it is safest to have a good lot set thickly under glass, giving them plenty of air. The evils that menace them there are damp in bad weather and attacks by mice and rats when frost sets in. Air for the first, and traps and poison for the last are the best antidotes. On uncovering a piece of Endive protected, after a severe frost, we have had the mortification

to find the greater part of the centres eaten out, and therefore rendered next to useless for salading. Lettuces will be attacked in the same way, but the mice are scarcely so fond of them as of Endive. One slight protection from them is afforded by letting the plants be frosted a little before covering them up. The mouse cares less for them when the leaves are hard. It is the heart or centre to which mice invariably go. Any one may have the outside leaves for what they care.

**Cucumbers.**—Sowed some for a late and winter crop, if they should be desired; planted out more to keep on in the autumn, and put lining of grass and litter round frames where the plants are still bearing freely. In the few cold nights we have had put on a mat over the glass at night. Gathered Gherkins and short Cucumbers for pickling; if the weather be sunny as well as warm there will be plenty more.

**Mushrooms.**—Prepared for another small bed in the shed; the first bearing heavily, and the second piece just appearing. Now is a good time for putting up a first-rate general bed, and also for making Mushroom spawn. The several modes of doing so we have frequently alluded to.

#### FRUIT GARDEN.

Proceeded much the same as noticed in previous weeks, thinning, shortening, and pinching the points out of shoots, gathering ripe fruit, and so as to prevent it falling. Plums, Morello Cherries, &c., are ripening very soon this season, and Gooseberries look as if they could not be kept long. Strawberries will want dressing as soon as we can find time, and the weaker summer shoots of Raspberries will want removing, to give more light and air to those remaining. Not a day but we see many things that want doing, which we cannot do so soon as we would like. Much, however, may be managed by system, and without the qualms that attend over-working.

A gentleman from the manufacturing districts lately expressed his surprise that the general run of labourers in this district did not seem to go at their work in the same spirit as they did in his neighbourhood. He alluded chiefly to agricultural labourers. We thought there was a reason patent on the surface. The labourers where he came from had some two, or three, or four shillings per week more as wages. To get the most out of a man, even as a mere physical machine, the machine must be kept up, and all its gearings well lubricated and in working order. Good food must be supplied as the fuel to make and keep up the working steam. It is worse than infatuation to expect that the Irishman will do the same amount of work in his own land for 1s. or 1s. 6d. per day as he would heartily do in some more favoured locality and circumstances where his wages would be from 2s. 6d. to 3s. 6d. per day. An Englishman cannot continue to do the work on 10s. per week which he could easily do, and also be fairly expected to do, on from 12s. to 15s. per week. Low wages will generally be found a great mistake for all parties concerned. One good effect of the new Union Chargeability Bill will be the greater equalising of wages over large districts, and a more general recognition of the simple principle, that before a man can do his best at even the simplest labour he must have a sufficiency of nourishing food. When first we came in contact with regular railway navvies we were astonished at two things—first, the amount of hard work they performed, and secondly, the quantity of good nourishing food they managed to put out of sight. No man could sustain such arduous continuous labour without being well fed. Without the fuel the fire must either go out, or merely maintain existence like a gathering coal smothered with ashes. The times are fast approaching when even the energies of the mere physical machine of humanity will have to be made the most of, and kept in first-rate working order. Without such care the employment of such energies will entail loss rather than profit.

#### ORNAMENTAL DEPARTMENT.

Went over stove, so as to relieve the shade, which was becoming too dense. Find we can grow but few plants in our limited room. Removed the decaying flowers from Stanhopeas and other Orchids, and gave abundance of water to Ferns. Plenty of drainage, good, sweet, well-aired, rough loam and peat, and plenty of water, so as never to allow the roots to become dry, are the chief points to be attended to in the successful culture of house Ferns. *Justicias*, *Eranthemums*, *Euphorbias*, *Poinsettias*, &c., to bloom freely in winter, should now be exposed to more light and air. The larger kinds of Cactus, as *Cereus*, *Epiphyllum*, &c., should now have all the sunlight possible, and no more water given than will keep them from showing signs of distress. Few of the larger kinds



will need much water after August. An inquiry has been made as to where Echinocacti, Mammillariæ, &c., are to be had for a small unique collection. No doubt there are many other places, but the chief place we recollect at present, where a nice select stock is for sale, is at the Bury St. Edmunds Botanic Garden. We often wonder why some of our amateurs, with but little room, and little time to spare, do not take more to this tribe of plants. Potted Cinerarias, Primulas, &c., for winter and spring, and commenced propagating for the flower garden next season. Nipped off the flowers from Geraniums intended for winter blooming. Gave more room to feathered Cockscombs, Balsams, and Chrysanthemums. Looked after the watering of the latter, as the rains are deceitful, the massive foliage throwing it past the pots, instead of into them.

The chief work, however, has been mowing, machining, and rolling lawns, and cleaning and regulating the beds in the flower gardens after the heavy rains. This work consisted chiefly in picking out decayed petals and blooms, picking out points of shoots in front of bloom-buds of Geraniums, and a plentiful disleafing of the larger-leaved Geraniums, which, owing to the wet, had become rather massive for the size of the flower-trusses, and keeping the plants in their right places by twigs and bands of fine string, which are generally concealed in the course of a day or two. This and lowering some buds which had grown rather high for the group, took up more of our time than we wished, and the result on the whole was very satisfactory as to appearances, the few days' sun having removed, with such picking, &c., all the effects of the pelting rains. But now, on the Thursday evening on which this is written, after being pretty well pleased with everything this afternoon, the barometer is falling rapidly, the lightning is flashing, and the thunder rolling as if presaging another storm, and if it come the beauty of the beds will be again impaired, all helping to give strength to the idea of having flower gardens under glass, as several times lately alluded to. At any rate whenever we have the chance, we would lessen rather than extend the space devoted to the grouping system of flower gardening out of doors.

Perhaps it is only fair that we should have the right of somewhat modifying our opinions as to the relative first expense of Beard's metallic houses, and a cheap, rough, but serviceable orchard-house, as we have it now on indisputable authority, that the patentees intend putting up such elegant houses at the expense of from 1s. 9d. to 2s. per square foot.—R. F.

## COVENT GARDEN MARKET.—AUGUST 12.

INCREASING supplies and decreasing prices are the rule now, for such large quantities of Plums, and other fruit, have rarely been seen even here, the great emporium.

### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples.....	1	0	2	0	Melons.....	each	2	0	5	0
Apricots.....	doz.	1	0	3	Mulberries.....	punnet	0	6	0	0
Cherries.....	lb.	0	6	1	Nectarinae.....	doz.	4	0	8	0
Chestnuts.....	bu.	0	0	0	Oranges.....	100	10	0	20	0
Currants, Red ½ sieve	3	6	5	0	Peaches.....	doz.	6	0	12	0
Black.....	do.	4	6	0	Pears (kitchen).....	doz.	0	0	0	0
Figs.....	doz.	2	0	4	dessert.....	doz.	1	0	2	0
Filberts.....	lb.	0	9	1	Pine Apples.....	lb.	3	0	6	0
Cobs.....	do.	0	0	0	Plums.....	½ sieve	2	6	4	0
Gooseberries.....	½ sieve	2	0	3	Quinces.....	½ sieve	0	0	0	0
Grapes, Hambro.....	lb.	2	0	5	Raspberries.....	lb.	0	6	0	0
Muscats.....	lb.	3	0	6	Strawberries.....	lb.	0	0	0	0
Lemons.....	100	8	0	14	Walnuts.....	hush	14	0	20	0

### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	each	0	4	0	6	Leeks.....	bunch	0	3	0	6
Asparagus.....	bundle	0	0	0	0	Lettuce.....	per score	0	9	1	6
Beans Broad.....	bushel	3	0	5	0	Mushrooms.....	pottle	2	6	4	0
Kidney.....	do	3	0	5	0	Must. & Cress.....	punnet	0	2	0	0
Beet, Red.....	doz.	2	0	3	0	Onions.....	doz. bunches	3	0	0	0
Broccoli.....	bundle	0	0	0	0	pickling.....	quart	0	6	0	8
Brus. Sprouts.....	½ sieve	0	0	0	0	Parsley.....	½ sieve	1	0	1	6
Cabbage.....	doz.	0	9	1	6	Parsnips.....	doz.	1	0	2	0
Capsicums.....	100	0	0	0	0	Pears.....	quart	0	9	1	6
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	6	4	0
Cauliflower.....	doz.	3	0	6	0	Kidney.....	do.	3	0	4	0
Celery.....	bundle	2	0	3	0	Radishes doz. bunches	0	6	1	0	0
Cucumbers.....	each	0	6	1	0	Rhubarb.....	bundle	0	2	0	4
pickling.....	doz.	2	0	4	0	Savoy.....	doz.	0	0	0	0
Endive.....	score	2	0	3	0	Sea-kale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	0	Spinach.....	bushel	3	0	4	0
Garlic and Shallots, lb.	0	8	0	0	0	Tomatoes.....	doz.	2	0	3	0
Herbs.....	bunch	0	3	0	0	Turnips.....	bunch	4	0	4	6
Horseradish.....	bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0	0

## TO CORRESPONDENTS.

\*.\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

VARIOUS (*Mary C.*).—Add salt and pounded allspice to your dried Rose leaves before putting them in the vases. (*Tyro*).—We would not advise you to cover your Vine border with glass for propagating bedding plants. The Currant is the Green-fruited Black; the blue-flowered plant is a variety of *Galega officinalis*.

APRICOTS ATTACKED BY EARWIGS (*An Old Subscriber*).—The rotting of the fruit is evidently the result of the earwigs making holes, and wet lodging in these causes rotteness. Adopt the means recommended in similar cases in last week's Journal.

PROPAGATING-POT (*T. Barnes*).—If you send us one of your pots, carriage paid, and it appears to us to be an improvement on those already in use, we will give publicity to it.

KEW GARDENS (*J. B., near Hull*).—By all means embrace the opportunity. With care you can live on the sum you name.

HAIL-STONES (*W. Gerrard*).—We have seen much larger pieces of ice fall in storms, if the sketch sent represents the natural size.

AVICULTURE CULTURE (*W. E.*).—"Florists' Flowers for the Many," which you can have free by post from our office for five postage stamps, gives all the information which you require. We never recommend dealers.

MRS. POLLOCK GERANIUM (*One Not Used to Plants*).—The mould from rotten sticks is decidedly bad, and so, too, was cutting off nearly all the leaves. Under these circumstances success in striking the cuttings is very questionable. Try what you can do by potting in sandy loam, leaf mould, and silver sand, in equal parts, with a little silver sand at top; then water gently, cover with the bell-glass, and it may yet succeed.

GLAZING WITHOUT PETTY (*S. J., Salop*).—We are unable to understand your mode of glazing from the photograph alone, and shall be glad to have further particulars.

FUNGUS ON LAWN (*T. S. B., Streatham*).—To kill the fungus give a sprinkling of salt. The ground is probably worn out; if so, an application of guano will make the grass grow stronger, and the fungus will then probably cease to trouble you.

TROPEOLUM SPORTS (*Ruby*).—We sowed the seeds sent us last year, as we were desirous to learn whether the seedlings would inherit the peculiarities of their parent. The plants have nothing to distinguish them from the varieties of *T. Lobbianum*, and the flowers are inferior and very different from the leaves and flowers sent us last season. Six seeds vegetated, and no two of them were alike.

ACHIMENES AND GLOXINIAS IN A COOL GREENHOUSE (*Eboracum*).—You may flower them in a greenhouse if the roots are forwarded in a hotbed, and kept there until well advanced for bloom. They cannot be grown well in a cool greenhouse, though they will flower well there, and may be kept in winter in the warmest part of the house with the soil dry. A dozen good Achimenes are Drizzle, Ambrose Verschaffelt, Longiflora major, Carl Wolfarth, Baumann's hirsuta, Mauve Queen, Sir Treherne Thomas, Margaretta, Carinata elegans, William Muller, Meteor, and Seeptrum. Gloxinias: Sir Hugo, Angelina, Duke of Wellington, Most Beautiful, Lady Emily Willers, Wilsoni, Georgiana, Princess Alice, Evelina, Raphael, Tisona, and Lady Victoria Howard.

PLANTS FOR ROCKWORK (*L. T. B.*).—*Rhododendrons hirsutum* and *ferrugineum*; *Silene acaulis*, S. Schafta, *Cistus formosus*, *algarviensis*, *roseus*, and *purpureus*; *Cerastium tomentosum*, *Cineraria maritima*, *Alyssum saxatile*, *Acœna Nova-Zelandica*, *Aquilegia alpina*, *Arabis albidia*, *A. bellidifolia*, *Bryanthus erectus*, *Cornus suecica*, *Campanula garganica*, *Linaria cymbalaria variegata*, *Lithospermum fruticosum*, *Iberis saxatilis*, *Lotus corniculatus flore pleno*, *Saxifraga oppositifolia*, *S. caryophylla*, *S. palmata*, and *S. affinis*; *Sedum pallidum roseum*, *S. sempervivoides*, *S. grandiflorum*, and *S. altaicum*; *Vinea major* elegantissima, *Statice alpina*, and *Oxalis tropeoloides*.

CARNATIONS CHANGING COLOUR (*Felixstowe*).—We have never known this to be the case as you say from dark to light. Light flowers frequently run and become dark, but we do not remember ever hearing of the reverse taking place.

PURPLE SPINACH.—We have not observed this at the Royal Horticultural Gardens and in the parks. Is it not either *Amaranthus melancholicus* ruber or *Fresina Herbstii* to which you refer?

INTERNATIONAL HORTICULTURAL EXHIBITION AND CONGRESS (*Argus*).—You may rest assured that no individual, or body of individuals, will be permitted to interfere with the management, except the Executive Committee which has already been appointed.

COTTAGERS' ALLOTMENT SOCIETIES.—A society of this description being in contemplation at Penzance, our assistance has been asked in procuring the rules of similar associations; we shall therefore be glad if any of our correspondents can help us in the matter.

SEEDLING GERANIUM (*F. D.*).—It appears to possess some good properties, but to form a correct judgment of it the plant should be seen. We would advise you to submit it to the Floral Committee of the Royal Horticultural Society.

NAMES OF FRUIT (W. Wilson).—The Fig is the Brown Turkey. The reason of its ripening earlier than the others is well explained by "G.S." in another column.

NAMES OF PLANTS (J. S. W., Worksop).—1, *Eunonymus europæus*; 2, *Rhus cotinus*. (A Young Beginner).—1, *Allamanda Aubletii*; 5, *Rhy-*

*cospermum jasminoides*. It is impossible to name plants from mere scraps of leaves. (C. P.).—1, *Athyrium Filix-foemina*; 2 and 3, forms of *Cystopteris fragilis*; 4, *Adiantum scutulosum*. (T. of A.).—*Pteris serrulata*. (An Old Subscriber, Berks).—*Clethra acuminata*. (J. B. H.).—*Lycopsis arvensis*. (C. F.).—*Begonia gracilis* var.; *Gaillardia bicolor*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 12th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 6	30.080	29.985	78	42	61	594	S.W.	.04	Very fine; cloudy; fine; slight rain.
Mon. . . 7	29.892	29.774	77	47	63	61½	W.	.05	Cloudy; slight rain; heavy shower; cloudy and fine.
Tues. . . 8	29.947	29.876	76	40	64	62	N.W.	.00	Very fine; overcast; fine throughout.
Wed. . . 9	29.939	29.912	79	43	64	62	S.W.	.00	Very fine, with soft wind; very fine; hot sun; fine at night.
Thurs. 10	29.806	29.671	77	55	64	62½	S.	1.08	Fine, with soft wind; very fine; thunder, lightning, and very heavy rain at night.
Fri. . . 11	29.658	29.526	78	43	64	63	S.	.05	Overcast; densely clouded; rain.
Sat. . . 12	29.791	29.724	69	50	63	62	S.E.	.02	Fine; rain; cloudy, overcast at night.
Mean..	29.865	29.781	76.28	45.71	63.28	61.78	....	1.22	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### SELECTING FOWLS FOR BREEDING.

THAT like begets like is a proverb as old as the hills. As poultry breeders of old standing we know it, yet we are sometimes foolish enough to think we may now and then deviate from an established rule without penalty. It may not be. We have tried it this year to our cost. At a walk we placed a cock, such a beauty; but he had one fault, we tried to persuade ourselves it was a very trivial one, and might not be hereditary; but now, when the time is come for weeding the different runs, for consigning to the market or to the kitchen all that offend grievously, or that will not pay to keep, we find there is no exception in our favour, and that one fault is faithfully transmitted. We knew we were doing wrong, because the same result has happened before; but there is, we suppose, at times an inclination to forget experience and to try again. We know not what Darwin would say on the subject. A Goldfinch mated to a Goldfinch always produces a Goldfinch, but in many breeds of fowls it is difficult to breed chickens exactly like their parents. Take, for instance, Silver-Grey Dorkings—we have seen yards where every bird was the counterpart of his fellow, and where the uniformity was both marvellous and beautiful. The tie of Beau Brummel's neckcloth was the wonder and envy of all his admirers. A friend going to see him one day at his "lever" met the valet bringing down a large tray of neckcloths, little tumbled and quite unsoiled. "What are these?" said he to the valet. "Our failures, sir," replied the man. "My Lord," said a brother sportsman to Lord Rivers, "how is it, all your greyhounds are good ones?" "Because," answered his lordship, "I breed well, and hang well." Now, when we see these perfect yards, we want to meet the failures, and to see the kitchen account. We also find it much easier to hand down defects than virtues. A single comb in a Hamburgh or a Bantam is sure to be reproduced, a faulty toe in a Dorking or spikes in a Poland; but the great points and qualities appear only in some of the progeny.

We can only learn from these rather unprofitable facts that even from perfect birds we obtain only a proportion, and often a small one, of perfect chickens. It is, therefore, of paramount importance that in selecting our stock, we should take, if possible, perfect birds, and be inexorable if any one would have us overlook a real fault. Seeing also that where such is plainly to be perceived the bird is not a profitable one for stock, he should at once be got rid of. We say he because it is possible eggs may be wanted, and pullets kept for the purpose. The food consumed by useless mouths often makes the difference between profit and loss at the end of the year.

### ORMSKIRK AND SOUTHPORT POULTRY SHOW.

THE ninth annual meeting of this Society was held on the 9th inst., at Ormskirk. It was decidedly the best and most successful Exhibition which the Association has ever had. The entries were more numerous than upon any previous occasion, and the weather having proved fine there was a very numerous and respectable company upon the ground during the day. The collection of poultry was such as would have

done credit to exhibitions of far greater pretensions. There was a very numerous assortment of *Pigeons*, comprising nearly the whole of the well-known kinds. The pens of *Ducks*, *Geese*, and *Turkeys*, were also well filled. A very good pen of *Spanish* belonging to Mr. Rodbard was not delivered at the showyard until after the Judge (Mr. J. Hindson), had given in his awards, which were as follow:—

**DORKING.**—First, Admiral Hornby, Knowsley. Second, J. Blundell, Burscough. **CHICKENS.**—First, J. Holme, Knowsley. Second, Admiral Hornby.

**COCHIN-CHINA (Buff).**—First and Second, T. Stretch, Ormskirk. **CHICKENS.**—First, T. Stretch. Second, C. Sidgwick, Riddlesden, York. Highly Commended, T. Stretch.

**COCHIN-CHINA (Partridge or Gronse).**—First, R. T. Wood, near Chorley. Second, T. Stretch, Ormskirk. **CHICKENS.**—First and Second, T. Stretch. **SPANISH.**—First, R. Teebay, Fulwood. Second, J. Holme, Knowsley. **CHICKENS.**—First, R. Teebay. Second, J. Holme.

**GAME.**—First, J. Wood, Haigh, Lancaster. Second, C. W. Brierley, Middleton. **CHICKENS.**—First, J. Wood. Second, J. Eaves, Knowsley. Highly Commended, J. Eaves. Commended, T. Bell, Bickerstaffe; A. Nuttall, Newchurch.

**HAMBURGH (Golden-spangled).**—Second, J. Newton, Silsden, Leeds. Highly Commended, A. K. Wood, Burnside, Kendal.

**HAMBURGH (Silver-spangled).**—First, R. Teebay, Fulwood. Second, J. Newton, Silsden, Leeds. Highly Commended, R. Birch (executors of), Aintree. Commended, J. Foster, Riddlesden, near Keighley.

**HAMBURGH (Golden-pencilled).**—First, S. Smith, Halifax. Second, R. Tate, Leeds.

**HAMBURGH (Silver-pencilled).**—Second, A. Nuttall, Newchurch. Highly Commended, J. Platt, Desn, near Bolton.

**BANTAMS (Any variety).**—First, T. Eastham, Preston. Second, Admiral Hornby, Knowsley.

**ANY OTHER DISTINCT VARIETY.**—First, R. W. Boyle, Wicklow. Second, C. W. Brierley, Middleton. Highly Commended, J. Heath, Nantwich, Cheshire.

**COCK (Game).**—First, Admiral Hornby, Knowsley. Second, C. W. Brierley, Middleton. Highly Commended, J. Holme, Knowsley.

**BANTAM (Game Cock).**—First, G. Maples, jun., Wavertree. Second, C. W. Brierley, Middleton.

**DUCKS (Aylesbury).**—Prize, R. W. Boyle, Wicklow.

**DUCKS (Rouen).**—First, R. W. Boyle, Wicklow. Second, Admiral Hornby, Knowsley. Highly Commended, H. Prince, Nantwich. Commended, P. Ryley, Searisbrick.

**GESE (Any variety).**—First, Admiral Hornby, Knowsley. Second, R. W. Boyle. Highly Commended, J. Bryers, Ormskirk.

**TURKEYS (Any variety).**—Second, Admiral Hornby, Knowsley. Highly Commended, C. W. Brierley, Middleton; J. Bryers, Ormskirk.

**PIGEONS (Any distinct variety).**—First and Second, C. Cole, Bradford. Highly Commended, C. M. Roys, Rochdale; Countess of Derby. Commended, T. Stretch, Ormskirk.

### WOLVERHAMPTON POULTRY SHOW.

SOME years ago a Society was formed at Wolverhampton called the St. John's Working Men's Club, and annual meetings have taken place for the exhibition of fruit, flowers, and vegetables. This year, however, is the first at which prizes have been offered for poultry, Pigeons, and singing birds. The promoters have evidently had steadfastly in view not only the encouragement among local working men of a taste for the breeding of poultry and Pigeons, but also actually extended their premiums to the best of many varieties of wild animals that had been domesticated and made pets of. Such meetings must always have a beginning; and when it is taken into consideration that competition in all cases was absolutely restricted to residents within five miles of Wolverhampton, it cannot be denied that, for a first attempt, it was a most successful one.

At break of day the weather foreboded a series of heavy storms; the rain fell in torrents, and everything seemed to augur disappointment. About eight or nine o'clock, however, the sun broke out, and, luckily for the Show, a most favourable day ensued. Another year no doubt a more correct method of penning the birds will be carried out; for, on the present occasion, there were many irregularities, arising, most probably, from the hurried manner in which exhibitors brought their specimens to the show tent.



Among the pens shown were many of great merit. Some very good *Brakins* pullets, both dark and light-coloured, were exhibited, and some very nice Grey *Game Bantams*, and *Ducks* of unusual merit for table birds. A singular feature of the Show arose from the fact that, although two sets of prizes were offered for *Dorkings* (any variety), not a single specimen was shown. The district around Wolverhampton does not by any means seem favourable for *Spanish* fowls, if we are to judge those shown as a fair sample. The *Hamburghs*, on the contrary, proved not only a numerous entry, but also really good; some very early chickens were especially worth notice. It is a singularity of this Show that not a single specimen of either variety of Pencilled *Hamburghs* was entered. It is proved by experience that, they not being so hardy as the Spangled breeds, the district around Wolverhampton does not suit them. Some very fair specimens of *Cochins* were shown; and the *Rabbits* and *Guinea Pigs* proved so numerous an entry that they were quite a leading feature of the Show. The *Pigeons* were many of them good, but matched with great irregularity. To give every working man a chance of exhibiting his "holby," prizes were offered for an indiscriminate class of what might fairly be called oddities. Among the more singular of these was a Badger, that seemed ill at ease under the inquisitiveness of the many visitors, though a broken fang, and other blemishes, told but too plainly that he had experienced far rougher treatment since leaving his natural wilds. A tame Hawk was exhibited among the Pigeons; the owner also sent a pair of Doves, with young ones very recently hatched out, and for which, in spite of the number of people crowding around, the old birds displayed the most careful solicitude.

The Society of the St. John's Working Men's Club at Wolverhampton now embraces more than four hundred members, and we are told that additions are of daily occurrence. As, by the aid of multitudes of banners, triumphal arches, bands of music, &c., the day proved quite a *fête* at Wolverhampton, and the Show a pecuniary success, there cannot be a doubt the exhibition now instituted will prove an annually increasing one.

The following is the list of the awards:—

**SPANISH.**—First, J. Malkin. Second and Third no competition. *Chickens*.—First, A. Picken. Second and Third no competition.

**COCHINS.**—First, T. Bryan. Second and Third no competition. *Chickens*.—First, W. Cattee. Second and Third, R. Wiley.

**HAMBURGH.**—First, J. Boucher. Second and Third, T. May. Commended, W. Hsley; R. Wiley. *Chickens*.—First, R. Wiley. Second, T. May. Third, G. Shingler. Highly Commended, G. Shingler. *Pullets*.—First, T. Blakeman. Second, J. Ridge.

**EXTRA VARIETY OF POULTRY.**—First, W. Johnson (Light Brahma Pullets). Second, E. Williams (Grey Game Bantams). Third, G. Shingler (Dark Brahma Pullets). Commended, C. Taylor (Game Bantams.)

**DUCKS** (White).—First, J. Tudge. Second, T. Bryan. Third, no competition.

**DUCKS.**—First, J. Davies (Black and White). Second, E. Painter (Muscovies). Third, no competition.

**PIGEONS.**—*Carriers*.—First, E. Williams. Second and Third, W. Smith. Commended, W. Walker; B. Walford. *Fantails*.—First, T. Ward. Second, J. Burgess. Third, T. Ward. Commended, W. Smith. *Any variety of Pigeons or Doves*.—First, W. Smith (Antwerps). Second, R. Ling (Blue Owls). Third, W. Smith (Doves).

**RABBITS.**—First, E. Butler. Second, W. Webb. Third, J. Lowe. Fourth, W. Webb. Fifth, J. Lowe. Highly Commended, Mrs. Carter; W. Andrews; J. Lowe. Commended, T. Skinner; J. Lowe.

**GUINEA PIGS.**—First, C. Sage. Second, J. Causer. Third, J. Campbell.

**HAWK.**—Prize, W. Smith.

**BADGER.**—Prize W. Jenkins.

Mr. Edward Hewitt, of Eden Cottage, Sparkbrook, Birmingham, kindly gave his services as Arbitrator on the occasion.

## THE YORKSHIRE AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE above Society held their annual exhibition of poultry at Doncaster on the 2nd, 3rd, and 4th inst., and although in quality it was perhaps the best the Society has ever brought together, yet we think the prize list capable of considerable improvement so as to include classes for Golden-pencilled *Hamburghs*, *Brahmas*, *Polands*, &c., for there being no class for "any other variety," these kinds were excluded from competition. The weather was very unsettled, with frequent showers, during the three days, and as the birds were unprotected in open pens we fear some of them would suffer severely.

*Spanish* headed the list, and formed a good class, the first-prize pen being especially worthy of notice. *Dorkings* mustered strongly, but, with the exception of the prize pens, more particularly the first pen of chickens belonging to the Hon. H. W. Fitzwilliam, they were only an average lot. *Cochins* were weak in the adult class, but in chickens the competition was better, the prize being awarded to good Buffs. The *Game* classes were a disappointment, as, with the exception of a few pens, they were a very indifferent lot. There was a good show of *Hamburghs*, the adult Silver-spangled deserving most praise, the first-prize pen in that class we never saw excelled. *Bantams* were poor. In Single Game Cocks the cup was carried off by a splendid Black Red: a well known Brown Red, distinguished at many shows, here showed unmistakable evidence of "the white feather," by cowering in a corner and throwing up the feathers at the back of the head at sight of a competitor, in fact, as a bystander observed, he evinced considerable anxiety to be moving.

*Geese* and *Turkeys* were good, and the *Ducks* formed a splendid collection, Mr. Fowler figuring very conspicuously in nearly every class with birds of great merit.

The *Pigeon* show as regards entries was a failure, the prize of 5s. to each class not being a sufficient inducement to exhibitors to send their specimens, but, although small in number, some good birds were shown.

*Rabbits* were a nice lot.

**SPANISH.**—First, H. Beldon, Goitstock, near Bingley, Yorkshire. Second, J. G. Park, High Low Hall, near Whitehaven. Highly Commended, W. Massey, Fulford, York. *Chickens*.—First and Second, T. Greenwood, Dewsbury.

**DORKINGS.**—First, J. White, Warlaby, Northallerton. Second, H. Beldon, Goitstock. Highly Commended, J. Hatfield, jun., Cottingham. *Hall Chickens*.—First, Hon. H. W. Fitzwilliam, Wentworth Woodhouse. Second, H. Savile, Manor Farm, Rufford, Allerton, Notts. Highly Commended, J. K. Fowler, Prebendal Farm, Aylesbury.

**COCHIN-CHINA.**—First, H. Beldon, Goitstock. Second, W. Dawson, Hopton, Mirfield. *Chickens*.—First, W. H. Briggs, Bradford. Second, C. Sedgwick, Kiddleston Hall, Keighley. Highly Commended, H. Merkin, Driffield, Yorkshire.

**GAME** (Black-breasted and other Reds).—First, H. M. Julian, Hull. Second, M. W. Stobart, Darlington. Highly Commended, J. Cross, Hadcock, near Worksop, Notts; C. Chaloner, Steeley, Worksop, Notts. Commended, J. Pearce, Sturton, Retford, Notts. *Chickens*.—First, F. Sales, Crowle, Bawtry. Second, W. Bentley, Scholes-in-Cleckheaton. Highly Commended, T. Greenwood, Dewsbury.

**GAME** (Whites and Piles).—First, M. W. Stobart, Darlington. Second, W. Sutcliffe, Throstle Bower, Mytholmroyd, near Manchester.

**GAME** (Duckwings and other Greys and Blues).—First, F. Sales, Crowle, Bawtry. Second, W. Warburton, Sturton, near Retford, Notts. Highly Commended, M. W. Stobart, Darlington. *Chickens*.—First, W. Bentley, Scholes-in-Cleckheaton. Second, G. Hartley, Gomersal, near Leeds.

**HAMBURGH** (Golden-spangled).—First, H. Beldon, Goitstock, Bingley. Second, Messrs. Burch & Boulter, Sheffield. Highly Commended, J. Newton, Silsden, near Leeds. *Chickens*.—First, R. Ellis, Underbank, Holmfirth. Second, Messrs. Burch & Boulter.

**HAMBURGH** (Silver-spangled).—First and Second, H. Beldon, Goitstock. Highly Commended, J. Newton, Silsden, near Leeds. *Chickens*.—First, H. Beldon. Second, J. G. Park, High Low Hall.

**HAMBURGH** (Silver-pencilled).—H. Beldon, Goitstock. Second, H. Savile, Manor Farm, Rufford. *Chickens*.—First, H. Beldon. Second, J. G. Park, High Low Hall. Commended, J. Preston, Allerton, near Bradford.

**BANTAMS** (Gold and Silver-laced).—First, J. Preston, Allerton. Second, Right Hon. Lady Lonsdaleborough, Grimston Park, Tadcaster.

**BANTAMS** (Game of any colour).—First, R. J. Bentley, Funningley Park. Second, G. Hustler, Stillingfleet, near York. Highly Commended, J. G. Park, High Low Hall, near Whitehaven; Hon. W. Eden, Cantley Hall, Doncaster.

**BANTAMS** (Black or White).—First, H. Beldon, Goitstock. Second, H. E. Embleton, Hummerstone, near Leicester.

**BANTAMS** (Any other distinct breed).—First, W. J. Cope, Barnsley. Second, H. Beldon, Goitstock, Bingley.

**COCK** (Game).—Cup, W. H. Briggs, Bradford. Highly Commended, M. W. Stobart, Darlington; F. Sales, Crowle. Commended, R. T. Bentley, Funningley Park; C. Chaloner, Steeley, Worksop, Notts.

**GESE.**—First, J. K. Fowler, Prebendal Farm. Second, O. A. Young, Driffield, Yorkshire. Highly Commended, Lord Hawke, Womersley Park, Pontefract; J. K. Fowler.

**DUCKS** (Aylesbury).—First and Second, J. K. Fowler, Prebendal Farm.

*Ducklings*.—Prize, J. K. Fowler, Prebendal Farm, Aylesbury.

**DUCKS** (Rouen).—First, A. Cattle, York. Second, H. Beldon, Goitstock.

*Ducklings*.—Prize, J. K. Fowler.

**DUCKS** (Any other variety).—First, J. K. Fowler, Prebendal Farm, Aylesbury. Second, H. Beldon, Goitstock. *Ducklings*.—First, J. K. Fowler. Second, J. R. Jessop, Hull.

**TURKEYS.**—First, Lord Hawke, Womersley Park, Pontefract. Second, J. K. Fowler, Prebendal Farm, Aylesbury.

**PIGEONS.**—*Carriers*.—Prize, E. E. M. Roys, Greenhill, Rochdale. *Beards or Mottled Tumblers*.—Prize, E. E. M. Roys. *Owls*.—Prize, H. Yardley, Market Hall, Birmingham. *Nuns*.—Prize, R. Tate, Green Road, Leeds. *Turbits*.—Prize, H. Yardley. *Archangels*.—Prize, H. Yardley. *Fantails*.—Prize, H. Yardley. *Pouters or Croppers*.—Prize, H. Yardley. *Dragoons*.—Prize, E. E. M. Roys. *Any other new or distinct variety*.—Prize, H. Yardley.

**RABBITS.**—*Length of Ears*.—Prize, J. Carnelly, Nottingham. *Coloured*.—Prize, S. Harcastle, York. *Weight*.—Prize, E. E. M. Roys. *Any other variety*.—Prize, H. Hirst, Doncaster.

The Judges were Mr. W. Smith of Halifax, and Mr. M. Hunter of Greenhaumerton, near York.

## ROSSENDALE POULTRY EXHIBITION.

THIS Show was first instituted many years back in conjunction with an Agricultural Society; for the last four or five years, however, it has been discontinued, on account of the widely spread distress of the surrounding district, dependant, as it almost exclusively is, on the cotton trade. The recent happy termination of the American war, however, having brought with it the resuscitation of local trade, the customary meeting again took place on Friday the 4th inst., and we rejoice to say proved one of the very best ever yet held by this Society. Although the weather for two or three days previously was wet in the extreme, portending nothing but failure to the exhibition, even so late as nightfall the preceding evening, a more beautiful day for holding such a show could not be imagined than that on which this one was held. The sun shone cheerily the whole time, yet a fresh breeze made all things appear cool and invigorated. The arrangements were carried out with the greatest possible promptitude and success by James Munn, Esq., a gentleman who, being himself an enthusiastic

poultry fancier, knew perfectly well all the requirements of a poultry show, and by energy and perseverance evinced his personal determination to leave no stone unturned to command success, and, consequently, the whole affair proved a matter of universal congratulation. The Show ground is one of singular beauty, being the centre of a perfect amphitheatre of hills, clothed to the summits in most directions with trees of many years' standing, thus giving quite a rural and picturesque character to the scene. It is a matter beyond question that the Doncaster Show, which unfortunately was this year held simultaneously, somewhat lessened the amount of entries that otherwise might have been insured, as not a single Yorkshire breeder competed at Waterfoot; yet, despite this drawback, the collection was one of a very superior character, and was evidently a most popular feature of the meeting to the visitors generally.

*Hamburgs* stood first on the prize schedule. In these classes first-rate birds were entered, but it is a universally recognised fact among poultry breeders, that *Hamburgs* and *Game* fowls always show to the greatest disadvantage during moulting-time, being especially birds of feather. The Golden-spangled and the Silver-pencilled (chickens) were the best specimens exhibited. The *Game* fowls generally were fast losing their feathers, for it is well known that all fowls are in heaviest moult this season fully three weeks or a month earlier than customary. Mr. Brierley, of Middleton, exhibited several pens of these breeds, which will prove very difficult to beat some two months hence; this gentleman seemed determined to sweep the prize list, and so he did effectually. The *Cochins* and *Brahmas* were in very rude feather, particularly the latter variety. The second-prize pen of Mr. Boyle's, from Ireland, should now have a few weeks entire rest, for they well deserve it, having been so pre-eminently successful the whole season. At this moment, however, the hens are entirely without tail feathers, and we regretted to see them fast eating away the exposed pen-feathers, at present only partially developed over the whole frame, a depraved habit that once fairly acquired is most difficult to cure.

We never have seen this season so good a display of *Rosen Ducks*, as at Waterfoot. The Aylesbury young birds were but little inferior; whilst the *Geese* were prodigies of careful management. Some very beautiful domesticated *Teal* were shown, and proved an object of general interest throughout the day. Some good specimens of the common wild *Duck*, hatched this season from eggs procured from a wild bird's nest, were very good, but, most strange to say, one of the Ducks had a singularly faulty-coloured bill, a feature which we never before saw among hundreds of eggs thus treated, variations of colour, or "sports" as they are commonly called, being of very rare occurrence among wild birds.

It is with unfeigned pleasure that we record the success of the Show just held, and under the improvements of trade, we do not doubt that public support will be freely accorded to the future annual meetings of the Rosendale Committee.

A list of the awards made will be found in our last week's impression.

### TAKEN TO MALAYS.

Our friend, "WILTSHIRE RECTOR," writes that he has "taken to Cochins." I had hoped it would have been his experience of "taking to Brahmas" that he would have given, and I am sure he would be able to say more for them than for Cochins; but then we see there was our "maister's mon" in the way. He, good soul, was satisfied with the quiescence of the Cochins, his lack of curiosity, &c., and so as the Cochins "kips himself to his own place, maister's mon have made up his mind that maister better not kip any other zort, that's all," and "WILTSHIRE RECTOR," kind-hearted soul, as we all know him to be, gives in for the sake of peace and quietness. I can only recommend "our Chaplain" to take refuge under the wings of "our Editors," and introduce Brahmas to his "mon" as a new sort of Cochins. I do not think he will be sorry for the exchange. But I forget myself. I meant to write about "taking to Malays," but the old hobby-horse ran off with me. I can hardly say *revenons à nos moutons*, seeing that it was feathers and not wool I intended to dwell on. Taken to Malays, indeed! "And what if you have?" possibly some may say. Well, gentle reader, I beg pardon. My mission, self-imposed, a criticiser of schedules, as our friend "WILTSHIRE RECTOR" called me, is over, at least for the present, I am disposed to think satisfactorily. I have seen several schedules with a light and dark Brahma class. Even at Birmingham it has been found wise to throw aside the "rest and be thankful" theory, and adopt this division, whilst all shows of any stamp have offered fair premiums to my pets: and so my mission thus far, is, I fancy, accomplished.

Let me now turn to Malays, and give my experience of them. They appear rapidly going down the hill, and I would fain lend a hand to put the drag on. Soon, I fear, that this old breed, formerly so much thought of, must show up only in the "Any variety class," where too frequently the Judge "hates the

Malays," and accordingly high commendations reward them instead of prizes; the latter by far the most pleasant; the former always provoking my man Friday, he always declaring "he can't zee no good in recommending 'em."

Malays are certainly peculiar. Under certain conditions I call them shy birds. If they have the run of a field, and you take some friends to see them, ten chances to one they bolt like lightning through the outlet, and off. Shut them up in a few yards square with railing and they will allow you to examine them, looking you fearlessly in the face with somewhat an air of impudence, as if asking, "What do you think of me?" while the bright, intelligent, yet restless eye keeps you ever in sight. They have a peculiar knowing way of throwing their heads on one side, and taking a sight at you, as though they would return your searching glance. A good cock is a splendid bird. I think I have seen them brighter-coloured than the Game, with the metallic lustre of the black feathers more marked, while the hardness of feather cannot well be surpassed. Am I right in thinking they talk more to each other than other breeds? Certainly, if I am within hearing distance, he appears to me always to be saying something; and when at one time he was kept by himself, and the hens in an adjoining run, they would try every inch of the fencing to get through to him, and Friday persists "he would call them through anything." Both seem restless apart, nor does the presence of other ladies compensate for the loss of his own. So far as I have noticed, he will not tolerate a Brahma or Polish hen. If the cock will not tolerate other hens, his ladies are perfect vixens to the Brahmas; they drive them all over the run, gradually getting rid of the poll feathers from their pecks. This applies only to the Brahmas, for, strange to say, they never attempt to peck the Polish; whether alarmed by the unusual appearance, or what, I cannot say, but they give in at once. I have noticed the same amongst the young chickens. If there is this apparent pusillanimity as regards the Polish, this does not apply to the chickens amongst themselves. A lot of Malay cockerels have their set-to as fierce and as protracted as do Game cockerels, and the adult will take any amount of fighting before he will cry "enough." There is much in it, the chickens that grows upon you. They are the first to run towards you in greeting, and though, perhaps, somewhat gawky, if good coloured they have a beauty of their own, and now that I have taken to them I should not like to be without them.

Malays require high fences, for though heavy, with the wings short compared to Game and Polish, they have far greater powers of flight than the Cochins or Brahma. To many this is a disadvantage. I do not think they show to perfection in the exhibition pen. The hens are too restless, too intent on escape from their prison, and the cock's flowing and somewhat drooping tail is apt to suffer; moreover, they want freedom to remove the leggy appearance; added to this the hens may not be over-pleasant to each other. On this account I rejoice that Birmingham has decided to treat them as Game, and show cock and one hen. When "WILTSHIRE RECTOR" paid me a visit, he jokingly said that Malays were *Naylays*. Well, mine have behaved very creditably in this way, and I have heard no complaint of paucity of eggs. Some of the eggs are above the average size, others again are very small; the colour, too, varies considerably. On the table I have already said, I think the Malay A1, both as to flavour and appearance. On the latter point I have yet to convert "our Chaplain," and I trust this year I may do it. The chickens are certainly hardy.—Y. B. A. Z.

### BEE-KEEPING IN DEVON.—No XXV.

THE SEASIDE—TRUE HEROINES—HIVES WITH ENTRANCES AT TOP—REMOVING A SUPER—CHILLED BROOD NOT IDENTICAL WITH FOUL BROOD—A DRONE BRED IN A ROYAL CELL!

I've once more been by the seaside, but not again to my favourite little hamlet in the wilds of North Devon, nor have I any apiarian adventures to recount. This time my fortnight's sojourn has been at one of our South Devon watering-places, within easy distance by rail of the "ever faithful" city, and to which, indeed, I was once recalled by the necessities of distant friends who were impatient for Ligurians. During this fortnight's trip I think I saw but one bee, and that a black one, in the act of investigating a blackberry blossom. I immediately caught the little forager and conveyed it a short distance imprisoned in my bare hand, from which when opened it escaped right joyfully and flew merrily away, probably some-



what puzzled to account for its unusual adventure. All this was matter of intense astonishment to a juvenile relative who happened to accompany me, and who seemed to deem my explanation that bees were most inoffensive creatures when at a distance from their hives, a rather lame interpretation of what appeared to him so remarkable a phenomenon.

But, dear me! what am I saying? That I never saw but one bee? What a mistake! How could I forget that I paid a visit to two excellent maiden ladies (sisters), residing near a neighbouring village who, to their eternal honour be it spoken, devote the whole of their time and otherwise ample means to the gratuitous maintenance and education of a number of destitute orphan girls, children of officers who, having spent themselves in the service of their country, had been unable to provide for those dear ones that remained behind them. All honour, indeed, to these admirable women, before whose life-long labour and glorious self-abnegation, deeds of what the world is accustomed to call heroism appear but as puny and dwarfed abortions. By one of these estimable ladies was I escorted over the apiary, which I found to consist of about a dozen hives of various descriptions scattered about the garden—some swarms, some old stocks, some working-supers, and all doing well. But what most forcibly engaged my attention was two or three hives with entrances at the top, after the fashion advocated by Messrs. Williams and Stuttle, and one of which was working a couple of good supers. This my conductress informed me had been for some years a very favourite and successful plan of hers; and on my inquiring what became of dead bees and other refuse, she replied that she supposed they must be dragged out at the top, for there was no other means of egress.

Having returned from my fourteen-days holiday in the evening of the 13th July, my first care was to insert an empty box under the super adverted to in page 19, which was by this time well filled, with the exception of the outside of the two side-combs which the bees had not been able to seal completely over, but which, nevertheless, contained in the whole about 35 lbs. of beautifully white honeycomb. Most of the bees had deserted it by the next morning, when I took it off, permitted the stragglers to escape, and had it all ready for Mr. A. Neighbour, who made his appearance about one o'clock in order to convey it to Plymouth in time to be exhibited during the following week, at his stall in the show-yard of the Royal Agricultural Society.

The afternoon was devoted by Mr. Neighbour and myself to a trip to the residence of the clerical friend whose "mistakes" were related in No. 221 of "our Journal." Here we inspected his apiary, minutely examining the hive mentioned in page 477 of the last volume, and which at that time contained so large a quantity of chilled brood in all stages of decomposition. We found that the great bulk of this abortive brood had been removed by the bees, whilst that which remained appeared to have dried into a perfectly innocuous condition, nor was there the slightest trace of that fell disease, foul brood, with whose appearance I have unfortunately been so familiar that I could not fail to recognise it almost at a glance. The result of this "mistake," therefore, proves as conclusively as a somewhat similar experiment purposely instituted by myself, and frequently referred to during my discussion with Mr. Lowe on the subject, that chilled brood and foul brood are by no means identical.

Returning in the evening, I saw my friend and his weighty glass box off on their way to Plymouth, where I doubt not his stand has proved one of the most attractive features of the show.

Those who are familiar with the writings of the illustrious Huber may, perhaps, remember that during his experiments with drone-breeding queens, whose abnormal condition, erroneously attributed by him to retarded impregnation, has since been proved to be owing to parthenogenesis, since drone-breeding queens are undoubtedly virgin queens; he remarked the singular fact, that these defective mother-bees sometimes lay the eggs of males in queen cells, and was astonished at finding that the workers took exactly the same care of drone eggs deposited in royal cells, as of those that would really become queens. More than once, in the firm persuasion of finding royal nymphs, he opened these royal cells after they had been sealed, yet the nymph of a drone always appeared.

I am not, however, aware that any instance has yet been recorded in which bees, with the full opportunity of selecting from hundreds of worker eggs and young worms, have yet committed the mistake of choosing a male egg, giving to it a

royal cradle, and nursing it to maturity. It will, I think, be admitted that such an aberration in the instinct of the bee is extremely unusual, and I for one should be very slow to believe it, unless occurring, as in the instance which I am about to relate, under circumstances that preclude the possibility of either doubt or mistake.

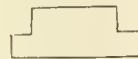
It may be remembered that on the 19th of June, I introduced a young queen that had exhibited signs of fecundation, to a stock which, as related in page 19, had lost its queen in an attempt to swarm six days before. This introduction having been successfully effected, I supplied the "nucleus" from which the young matron had been abstracted with a suitable brood-comb on the 25th of June. This comb contained worker-brood in all stages, from the egg to the sealed nymph, as well as a patch of drone-brood at one end. Only one royal cell was, however, formed, and this, as is very frequently the case, was situated near the bottom of the comb, and just at the point of junction between the worker and drone brood. After vainly watching day after day for the expected appearance of a queen, and finding the royal cell apparently neglected by the workers, who, having denuded its apex of wax, seemed to pay no further attention to it, I cut it open on the 23rd day, and was at first quite confounded at finding that it contained a living inhabitant. My momentary impression that I had prematurely destroyed a queen nearly ready to emerge from her cell was, however, speedily dissipated on a more minute examination, which proved the individual thus reared "in the purple" to be neither more nor less than a full-grown and well-developed drone, which would probably have made a natural exit during the next (the 24th) day.

I should be glad if any of the apianian readers of "our Journal" would state whether a similar instance to that last related has ever come under their observation.—A DEVONSHIRE BEE-KEEPER.

#### BARS AND SLIDES OF STEWARTON HIVES.

MAY I trouble you or "A RENFREWSHIRE BEE-KEEPER" for a minute description of the bars and slides used with the Stewarton hives? A section, such as was given of the Woodbury bars and frames, would, I think, be valuable to many of your apianian readers in common with myself.—W. J.

[The six central bars in Stewarton hives are  $1\frac{1}{2}$  inch wide, the outer two are  $1\frac{1}{2}$  by  $\frac{1}{2}$  inch thick. If frames are intended to be attached, to make a more secure job, the thickness had better be increased one-eighth of an inch. On each side of the bar, one-eighth of an inch from the top, is run a groove, one-eighth square, to receive the feather of the slide; the lower corners are rounded off to the Woodbury rib. The slides are five-eighths of an inch wide on the under and three-eighths of an inch on the upper side, and a quarter of an inch thick, the upper side of the slide working flush with the top of the bar. The accompanying sketch, showing an end view of the bar and slide, may aid the description.]



The slides are left  $1\frac{1}{2}$  inch longer than the bars, to draw by, and should be slightly rounded on the lower edge that they may work very easily at the start. An obdurate slide or over-thick comb I can easily remove from one of my hives by simply bringing the others a little closer; this advantage is attainable by placing the bars on the top of the hive, a portion of their under side being removed to lower the edge of the groove equal in extent to the thickness of the hive; whereas in those hives in which are bars or frames sunk into notches, the bars do not offer the same facility, but are in a great measure fixtures.

When frames are attached to bars the notches are carried further on, so as to leave a quarter-of-inch passage between the end of the frames and the hive. The ends of the frames are of the same breadth as the bars, fully one-eighth of an inch thick when dressed, the lower corners are rounded off in imitation of combs, and kept together at bottom by a narrow strip of wood seven-sixteenths of an inch broad by a quarter of an inch thick. Frames so made are an improvement on those in which the bottoms are of the same width as the sides, such

keeping the hive much closer and impeding the progress of the bees.

Your correspondent's best plan would be to order direct from any of the Stewarton makers a single hive as a pattern (should he not require more), and if he wish to adapt bars and slides to the hives he at present employs, he could add to his order a quantity of bars and slides in length pieces, and these he could easily cut up to suit his purpose. These hives can be procured from Stewarton at a price at which no local tradesman will undertake to furnish them. James Allan, cabinet-maker there, supplies me.—A RENFREWSHIRE BEE-KEEPER.]

### FECONDITY OF LIGURIAN QUEENS.

My apiary is looking more flourishing than before in consequence of the wonderful breeding powers of the Ligurian queen, daughter of one received from Mr. Woodbury. I made the first swarm from this hive by removal on the 6th of May; on the 9th of June a very large swarm was thrown off, which has filled a large super; on the 19th a good second swarm issued, and a large population was left behind, besides which I robbed it of two brood-combs to strengthen other swarms, and a great number of bees from this queen are working in two black hives, to which they seem to have been allowed entrance without opposition. I never saw anything like the multitude of bees this queen has produced, and drones are also very numerous.—J. L.

### SUPERING A SWARM WHEN HIVED.

#### STRENGTHENING A WEAK STOCK—FEEDING.

I COMMENCED keeping bees this season by purchasing two first swarms, which were hived in Payne's flat-topped hives on the 6th and 7th of June respectively. I was absent from home at the time, and, mistaking my directions, a small straw super was placed on No. 1 two days after it was hived. On the 11th of July I took this super, completely filled with sealed honey, and weighing 9½ lbs. nett. On the 13th, having taken out the honey, I replaced the super in its former position, and it is now apparently nearly full of sealed comb again.

No. 2 was treated according to the direction in "Bee-keeping for the Many," the glass super not being put on till the eighteenth day after the swarm was hived. In the meantime I fear a swarm had gone off, which was lost; for the bees appear to be greatly reduced in numbers, and have refused to do anything in the super. The stock-hive, however, does not weigh less than 20 lbs. Do you recommend me to join another swarm to this by driving, or to let the hive stand the winter as it is?

On the 27th of July I purchased a stock condemned to be burnt, for the purpose of making an experiment in driving. The experiment was perfectly successful, and I took about 15 lbs. weight of honey from the hive from which the bees were driven. The weather being very fine at the time, I did not feed the driven bees; they seemed to work well in their new hive, and, after a day or two, began to carry in pollen abundantly. A wet morning, however, made me nervous about their having enough food, and I determined to give them the "bottle." I took up the volume of THE JOURNAL OF HORTICULTURE for 1863, and found that the right proportion of sugar and water was 3 lbs. of the former to 2 lbs. of the latter, simmered and boiled for two or three minutes. I made my food according to receipt, put it in the bottle, tied on the net, inverted it over the perforated zinc, and all seemed well; but the next morning a dark spot on the ground, covered with a cluster of flies, told a tale. The syrup must have poured down through the hive, causing great consternation to the inhabitants, and at length dropped on the ground, to the great delight of the flies. Since that I have given them half a pound of honey; and now I am feeding with barley sugar put in at the bottom, which, however, they do not eat very readily; in fact they seem to be in a very weak state.

If this experiment does not succeed, I am determined to try again with another colony of condemned bees; but I am anxious to have a good receipt for bee-food without honey. One person strongly recommends treacle and beer; another, sweet worts, &c. The cook says if she had to make syrup about the consistency of ordinary honey, she would put 5 lbs. of loaf sugar to half a pint of water. This is very different from the receipt in the Journal. I should also be glad to know whether the food ought to be given soon after the bees are

driven, or whether it is better to wait till night.—J. L. STACKHOUSE.

[Some persons recommend placing a small super on a swarm immediately after hiving, and your success would seem to indicate that the plan is a good one. If No. 2 appears weak, we should drive and add to it the bees from a condemned hive. The fault was not in the food, but in your management of the bottle, which you should test before using, by filling it with water and inverting it. If any run out after it is inverted there is something wrong—the mouth, perhaps, too wide—and another must be chosen. The inhabitants of two or three condemned hives should be united, and fed liberally until they have built combs, and stored them with a nett weight of from 15 to 20 lbs., if it be desired to form a strong stock, fit to stand the winter. Food is best given at night.]

### REMOVING BEES.

BE SO kind as to inform me at what time of year and what hour of the day it will be best to move a hive of bees from one side of some buildings to the other, a distance, perhaps, of 40 yards, but not in sight.

[The best mode of removing a stock of bees so short a distance is, first to carry it to a new situation not less than a mile and a half off, shutting them up in the evening with due care for ventilation. In about three weeks time they may be brought back to a new position in the neighbourhood of their old stance. If moved direct it had better be done very quietly during the depth of winter.]

### RETARDING THE DESTRUCTION OF DRONES.

#### REMOVING A QUEEN.

I SHALL feel obliged if you will advise me as to the best means of preserving the drones in one or more of my hives for the purpose of trying to breed a few late Italian queens. Although the doctrine of parthenogenesis seems incontrovertibly established, I should, nevertheless, prefer saving drones bred by my pure queen. This pure queen is now in a bar and frame hive furnished with a fair proportion of drone-comb, and drones are beginning to come forth pretty freely, so that by the middle of July it will contain a considerable number of these gentlemen. Would feeding in case of bad weather, or when the honey harvest begins to fail, induce the bees to allow the drones to remain unmolested? If the hive still retains the old queen, I would take steps for raising young queens about the 7th of August, as by the time they were hatched and ready for the drones the cottagers would have taken down their bees, and the annual massacre would be completed in almost every hive which remained. I should not like to risk my pure queen in these experiments by removing her to a strange hive and leaving her subjects to raise queens.—J. E. B.

[Liberal feeding when the natural supply fails may do something to retard the destruction of drones, which, also, bees possessing an old queen are not usually so prompt to commence as those presided over by a queen bred this season. Still it is more than probable that you will eventually be compelled to remove the queen, and this may be safely done by putting the comb on which she is found into a nucleus box, together with two or three spare combs, and then brushing into it the bees from two or three combs of her own hive. This little colony, being possessed of a fertile queen, may be rapidly built up into a strong stock by the gradual addition of brood-combs from other hives, and the queen will not run the slightest risk by the removal.]

### ARTIFICIAL VERSUS NATURAL SWARMS— Dwindling Stock.

I WAS amused at your correspondent "A DEVONSHIRE BEE-KEEPER" writing that he had had a misfortune in one of his hives swarming naturally. I always imagined natural swarms were best. I have not kept bees for many years and therefore am perhaps not competent to give an opinion, but I have tried artificial swarming twice and failed each time. The first time, my new swarm disappeared the day after driving. This year, having a large straw hive crammed with bees and more than 50 lbs. weight of honey, I determined to try for an artificial swarm, as the bees had been hanging out for two or three



weeks and would not go off. Accordingly, on June 9th, I obtained the help of an old friend who has kept bees for years, and done better than most, even in every kind of hive. We first put an empty hive on the full one, drummed till about half of the bees went up, and then put the swarm in its place. It was a large swarm, but decreased in a few days; the bees, I suppose, going back to their old place. However, they have done very well, but the old stock puzzles me, and I should like to know what to do with them.

This old stock is in a fair-sized bee-house with another hive by its side, and as far as I can ascertain the two have fraternised. I saw the morning after driving that they were inclined to do so, but I effectually separated them by putting up boards for a day or two. Now, however, they appear to me to run together inside the house; and although the bees in the driven stock occasionally carry in a little pollen, yet they are idle and listless, and there is not above half the number that there was a month ago, while the hive by its side is crammed, and a large super also full of bees. I do not like losing a stock in this way, and I should be glad of any advice. My friend here is puzzled, as he says it is too late to give them a piece of royal brood or a queen. Would it do to remove the super and put an empty hive in its place, so that if the queen went up it might be removed this autumn or next spring, and trust to the stock-hive (not the driven one), raising a new queen? In this case I should take the honey from the driven hive, and let the bees all go together.—A PUZZLED ONE.

["A DEVONSHIRE BEE-KEEPER," using only moveable comb-hives, and multiplying his Ligurian bees with ease and certainty by artificial swarming, may well deem the risk of losing valuable queens by natural swarms far too great to be willingly encountered. Your first failure was probably owing to the queen not accompanying the driven swarm, and the bees returning to the parent stock in consequence; whilst in the second instance the old stock either failed in raising a queen or some fatal accident happened to her afterwards. Similar misfortunes are by no means uncommon in natural swarming, but with moveable comb hives they can be soon detected and easily remedied. Your best plan will now be to drive some one of your neighbour's condemned colonies and add the bees to your dwindling stock.]

### TAKING SUPERS—HONEY HARVEST IN SHROPSHIRE.

You say the best way of taking a super is to put a box under it, but you do not state if the communication with the stock is to be cut off. I always find a difficulty in taking away supers, and any improved and quiet plan would be a boon. After placing the box under the super, do you cut off the communication with the stock?

The honey season here seems to have been good. I had three stocks this spring and have taken 60 lbs. in supers. One stock after swarming filled a glass super weighing 24½ lbs., and the swarm nearly 10 lbs., making upwards of 30 lbs. The honey harvest has been over here for at least a fortnight.—GEO. SMYTHE, Norton, near Shifnall, Salop.

[When a box is inserted under a super with a view to its removal, the communication with the stock-hive should be left open.]

TO MAKE CURRANT JELLY.—Set on the fire in a sugar-pan a pint of smooth clarified sugar; when it boils put in a quart of picked red currants, in which let them boil for an hour. Be careful to skim them well, and at times add a little cold water to raise the scum. When boiled enough run the liquor through a sieve into a basin, in which you have squeezed three lemons; then put in some isinglass, and set your jelly in a mould to ice as usual. Another mode consists in taking the ripest red currants that can be had, as the white are not so good for jelly; crush them, and press out all the juice into a glazed pan; cover it very closely, and set it in a cold place for six days; then with great care remove the thick skin which covers the juice, and pour it into another vessel, throwing away what remains at the bottom. When the juice is perfectly clear weigh it, and for each pound take half-pound of crushed sugar; put them on the fire together, and much scum will soon rise, which must all be taken off; let it remain on the fire for about an hour, and then try it as follows:—Put a small quantity on a very cold plate, and if when it cools it becomes thick and of proper consistence

take the pan from the fire; if it is not let it remain till that is the case. Pour the jelly whilst hot, and the glasses must be quite cold before you cover them with paper.

TO CANDY FRUITS.—Take one pound of the best loaf sugar; dip each lump into a bowl of water and put the sugar in your preserving kettle. Boil it down until perfectly clear, and in a candying state. When sufficiently boiled, have ready the fruits you wish to preserve. Large white grapes, oranges, separated into small pieces, or preserved fruits, taken out of their scrups and dried are nice. Dip the fruits into the prepared sugar while it is hot; then put them in a cold place—they soon become hard.

### OUR LETTER BOX.

POINTS OF ROUEN DUCKS (*J. McConnell*).—We do not remember having received your letter, but a similar question was answered last week at page 120. Streaks of white on the face, pale breasts, or the presence of white feathers on any part of the body, are fatal objections.

BREEDING COCHINS FOR EXHIBITION.—POULTRY FOOD (*Valeria*).—Having assured yourself that the birds are in all respects such as you would wish, you may take hens of two or three years old, and put to them a cock of twelve months. If you are breeding for early chickens next year, you must recollect that there is almost always a large proportion of cocks in the earliest hatches; you must arrange accordingly. The best food for all poultry is ground oats; it is used all through Sussex; it is not oatmeal. It can be had from Mr. Agata, Slaughter Mills, Crawley. The book is in the press.

VETCHES AS FOOD FOR POULTRY (*J. T.*).—Vetches are not considered good food for poultry; we do not advise you to give them. They are excellent for Pigeons. It may be well to say that if the quantity does not exceed one-tenth they may probably be given without injury, but it is hardly satisfactory to give food that will merely allow your poultry to remain stationary, without deriving benefit from it.

COOP FOR SITTING-HENS (*G. B.*).—Your coop will answer the purpose well; but such a box should be divided into three, be closed all round, and only the lid should be wirework. The hens should be shut in, and taken out to feed morning and evening. There should be no bottom. Sitting-hens cannot be too private, and nothing annoys them so much as other hens laying in their nests. It is also a great disadvantage at the hatching-time, on account of the irregularity it causes.

MANAGEMENT OF GOLDEN AND SILVER PHEASANTS (*W. H. W.*).—They are not very sociable birds. It may be some time before they become reconciled to their house, and attached to their owner. They would do better on the ground than in a loft. Their food should be barley. They are very fond of bread. They must be supplied with sods of growing grass. They are very hardy, and require no warmth, and very little shelter. Any kind of perch will suit them, but the best is a round one, about 1½ inch in diameter.

REMOVING EYES AND NADIRS (*A. B.*).—All the eyes or nadirs should be removed before winter.

TREATMENT OF A WEAK SWARM OF LIGURIANS (*A Subscriber*).—The best, perhaps the only, chance of saving your Ligurians will be to drive a strong stock of common bees, and induce the Italians into their deserted habitation. If done at once, there will probably be sufficient brood hatched out during the next two or three weeks to bring them into a satisfactory condition.

TOMATOES (*W. G. S.*).—On the Continent, and in America, visitors have informed us that large quantities of full-grown green tomatoes are used as salads separately, and mixed with cucumbers; that great quantities of the young fruit are pickled and preserved, just as we pickle gherkins. We have made a very nice sauce in the following manner:—Put the ripe fruit for an hour in an earthen vessel into an oven, not hot enough to make them boil, but warm enough to cause the fruit to fall, and become soft; then pour off the thin liquid; squeeze the pulp through a cullender, keeping out the seeds; and to every gallon of this juice add a dozen fair-sized button onions, rather more shallots, less of garlic, or of cayenne pepper a little allspice and cloves, and salt to flavour. Simmer gently over a slow fire for an hour, stirring the mixture well all the time; and, as it gets cool, place it in wide-mouthed bottles; cork and secure with bladder. There are many other modes; and among these you will find directions for making tomato sauce; tomato catsup, tomato soup, tomato paste, and stewed tomato, at page 414, in No. 362, September 4, 1855; and these are but a sample of the many variations in the recipes as to keeping this fruit. The simplest mode is just to part with some of the mere watery fluid, boil the remainder sufficiently, and help to keep, and flavour to taste, with such condiments as pepper, salt, allspice, cloves, &c. Other receipts will be found Vol. VII., New Series, pages 324, 364, and 584.

### LONDON MARKETS.—August 14.

#### POULTRY.

There is a good supply of poultry, with a dull trade. Since our last quotations Grouse have come into season. We shall notice them next week, but at the time we go to press it is impossible to do so, very few having arrived.

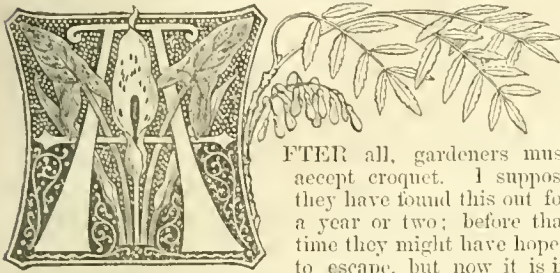
	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	2	0	2	6	Grouse .....	0	0	0	0
Smaller do. ....	1	9	2	0	Partridges .....	0	0	0	0
Chickens .....	1	6	1	9	Hares .....	0	0	0	0
Geese .....	6	0	6	6	Pigeons .....	0	8	0	9
Ducks .....	2	3	2	6	Rabbits .....	1	4	1	5
Guinea Fowls .....	0	0	0	0	Wild do.....	0	8	0	8

## WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 22—28, 1865.	Average Temperature near London.			Rain in last 35 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.	
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.				Days.
22	TU	Black Bryony flowers.	71.5	49.9	60.2	14	58	af 4	7	af 7	18	6	11	af 7	1	2	39	234
23	W	Soapwort flowers.	72.0	48.9	60.4	18	0	5	5	7	21	7	34	7	2	24	235	
24	TH	St. Bartholomew.	71.6	47.9	59.8	16	1	5	3	7	25	8	57	7	3	2	8	236
25	F	Southernwood flowers.	71.5	50.3	60.4	16	3	5	1	7	27	9	20	8	4	1	52	237
26	S	PRINCE CONSORT BORN, 1819.	72.6	48.7	60.1	12	5	5	59	6	30	10	46	8	5	1	36	238
27	SUN	11 SUNDAY AFTER TRINITY.	73.3	49.3	61.3	12	6	5	57	6	31	11	15	9	6	1	19	239
28	M	Golden Rod flowers.	73.1	49.5	61.3	17	8	5	54	6	after.	49	9	7	1	1	240	

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 72.2°, and its night temperature 49.2°. The greatest heat was 89°, on the 25th, 1859; and the lowest cold, 32°, on the 21st, 1850. The greatest fall of rain was 1.32 inch.

## HOW TO MAKE A CROQUET GROUND A GARDEN ORNAMENT.



**A**FTER all, gardeners must accept croquet. I suppose they have found this out for a year or two; before that time they might have hoped to escape, but now it is in

vain to dream of immunity from the universal game. A power to which all yield—monarchs and gardeners—is enlisted on the side of, and is ready to do battle for croquet—namely, the lady power; so therefore to yield is duty, propriety, yea, necessity.

Some four or five years ago a gardener had heard of the croquet invasion, but "he was quite sure that such nonsense would never captivate his ladies, they loved their flower-beds too much a great deal." He had, indeed, seen his brother gardeners with rueful faces turning over their beautifully-shaped beds, and he had marked with sorrow how their lawns were blotched in dry weather with straw-coloured patches, or even had the bare earth peeping through; however, he should escape he knew. At length one fine day an ominous-looking long box appeared on his lawn, and was opened in his presence. He knew what it all meant, and his heart sank, but as it sometimes happens in dark circumstances, his wit grew bright. As the mallets were extended on the grass, he said, "I suppose ma'am you are going to have a party of little cripples to tea, and these (touching the mallets) are their crutches?" A faint smile was all that was vouchsafed in return. A few minutes after the hoops were planted in *terra firma* (I wish some other hoops I knew of were under *terra firma*). Then, "Gardener, these beds must be laid down in grass, that Deodar must be transplanted, and, of course, that border must be done away with." A few months afterwards that poor gardener was in the condition of the son of a spendthrift sire, who was accustomed to say, "The gout was the only inheritance left me by my father," for he had but the croquet ground left in its bare ugliness, in that part of his once-prized garden.

But gardeners are men full of resources. "Why," said some one to Dr. Johnson, "do Scotch gardeners exel English?" "Because," growled Ursa Major, "it's all gardening in Scotland." There was sound sense in this reply. The greater the difficulties, the more is energy called forth, and the more resources to overcome the difficulties are brought out. Attempt to hinder a persevering man, and he will persevere all the more. The farmers thought free trade would ruin them, but it only ruined the idle ones, while the industrious and ingenious rose to the occasion, and triumphed. The game of croquet is well known. Let me observe, in passing, that the original arrange-

ment of the hoops is the best—two, and then three on each side, and two again. The bird-cage is one of your too-clever-by-half contrivances. There is only one plan occasionally adopted which every master or mistress of a garden, and every gardener must protest against, and not allow for a single moment—viz., the third stick, or one placed in the centre space which every player is obliged to hit with his ball after he has gone through each quarter of the game—that is, hit it eight times during the whole game. This is difficult, and there are often six misses to one hit; hence the grass around this stick becomes worn down to bare earth very quickly. This third stick cannot be tolerated; every other part of the game may be allowed to pass, but this never.

Croquet is to us in the country a necessity. Londoners talk of their Crystal Palace, and say they could not do without it, and cannot imagine a time in London's history when there was not such a building, so available for all purposes and all weathers. Nay, it is said some Londoners aver that there always was a Crystal Palace, that it is all nonsense to say otherwise, at any rate that the first was not built in 1851, but rather in 1581, if not earlier. Now, I say, I cannot imagine the country without croquet, it must have always been played, or how could there have been any summer sociality? Besides, we know there have always been weddings going on, and how without croquet could the young people have met, and we know they must have met before they were married? Hence it follows there always was croquet. Two bachelors each of forty-five years fell before croquet. "Poor fellows!" exclaimed another bachelor, the last left of the set, "they played each once too often at that foolish game." Even supposing the bachelor correct in charging croquet with spreading the fatal snare, still, perhaps, his friends did right in choosing wives at croquet, surely it is a better plan than the old and somewhat vulgar cheese-paring one. Watch a lady at croquet, if she be persevering, if she play steadily, if she play perfectly fairly, not trailing her dress across her ball, of course quite accidentally, but somehow the ball is put into a better position, if she play in perfect good humour, not losing her temper whatever happens, not stamping her pretty foot, and this, above all, if she be obedient to her captain, it is only fair to presume that she will make a good wife. In a too artificial age, croquet brings out the natural character, this surely is well; besides, it affords exercise without fatigue, and all can play from seven years old to seventy. One only fault is to be guarded against, croquet is apt to become a ruinous runner-away of time. This I endeavour to avoid by never allowing a mallet to be touched in the morning. Time for exercise, time for amusement (all the better if both are to be had together), there must be, but a game must not take the place of the serious, earnest business of life. Permit, fair young friends, this word of caution, and do not play morning, noon, afternoon, and even by moonlight. If the Great Master asked you, "What hast thou been doing?" and the only answer you could truthfully give, was, "I have been playing croquet," that would be a poor reply in deed.

Some of our readers, perhaps, occasionally give, or wish



to give "a croquet," that is the ladies' short for a croquet party; but as all such things are not equally well managed, let me describe one at which I was, happily for myself, present a short time since. Suppose a lawn on which were placed hoops for three games to be played at the same time; the mallets and balls were tastefully arranged at each starting point. In order to know one ground from another, and to prevent any dispute in the games, each ground had been clearly marked out by a narrow line of scattered bran run round the edge. On a table were laid the prizes, these are frequently flower-vases, photographic albums, or anything elegant and durable. The party had been planned for some weeks, there were to be players and lookers-on. Three sets of eight had been chosen by one well knowing the play of all. Each captain of a side was presented with a paper, upon which the names of his party, and their opponents were written. A little time is consumed in getting the players together, at last a dilatory gentleman who comes panting in at half-past three, instead of three, has arrived, and then the lawn is alive with players. Gay silks and black coats are intermingled, happily those odious dress coats are not required to be worn. Dress coats, the horrors! making elegy men look like footmen in mourning.

To return, the games proceed merrily. I thought I noticed a little flirting, and somebody looking across at another set, and wishing somebody had been playing in her set. Still all went on pretty well, and as each game nears its end, and that end is often long in coming, spectators gather round the stick almost as eager and as excited as the players themselves. The glorious uncertainty of croquet is now seen, for the skill that had been behind all the time now makes a spurt. A good hit follows, by which the best player of the hitherto successful side is knocked out of the game. All is excitement, and, lo! the lately depending ones win. So the eight are reduced to four. But just at this juncture dinner is announced, and here a croquet party is again sure to advantage. It is a cold dinner, and what so suitable in summer time? Long narrow tables extemporised for the day by the carpenter, run along the sides of the room, leaving a hollow square in the centre, and making a small dining-room a large one, or at least capable of containing a great number of guests, which is just the same. Brightly glisten the viands, being for the most part glazed marvellously, there are the substantial viands, there are the lighter viands, with dishes of juicy fruit interspersed, semi-transparent Grapes, Blooming Plums, and downy Peaches. But commend me (after I have dined) to the flower decorations, shapely Ferns in rustic-looking pots, Fuchsias with Chinese-lantern-like flowers, with the earth hidden by many a rare device; then the cut flowers, to arrange which employed the morning of the young ladies; care and time well spent, for the result was giving happiness to all who beheld them. Oh! the exquisite taste shown in arranging the colours, and the dainty sprays of Variegated Ivy made to climb the narrow stems! Man! man! thou art a very bungler in such matters! I could only look on and wonder at what the slender fingers had wrought. "What would any entertainment be without flowers?" Granted, but what would the flowers be without woman's arranging hand? The dinner is over, that portly old gentleman has finished at last. How some old gentlemen do enjoy their dinners! Back to croquet; the games of four, two on each side, are soon over; then come the duels, when the two firm friends all through, who have advised each other in soft accents, now become deadly enemies. Now they are at it, the lady is croqueted, but she does not despair; up she comes again. The gentleman bumbles at the first stick, the lady advances; he is after her. Another miss—ah! but she has artfully wired herself. "He will win." "No, she will." "Hurrah! the lady has it." The other games are advancing to their end. Mamma's sip their tea, and hope the grass is not damp; the daughters say, "Oh dear no," but it is, though the young ladies are incredulous. The last game is over, the heroes of the day are congratulated, and advance for their prizes. They draw lots for the best, and receive them in order, with a heightened cheek, and a tremulous hand. Evening is now advancing rapidly, and all praise to health-giving croquet, its parties end when others begin. Croquet causes no late hours, and brings no headaches. The groups are thinning, and soon the last carriage wheels out of the gate.

One final remark. I think it is a mistake to give prizes at croquet parties. Like chess, croquet should stand as a game on its own merits. The pleasant gathering, the kind hospitality, the good game are enough. Prizes make feelings too keen, and a little mar the general pleasure. Human nature is

human nature, even when dressed in crinolines, or black frock coats. Dear me! how I have run away from my text, which on turning back I see, for I had forgotten it, is, "How to make a croquet ground a garden ornament." Well, I am not the first clergyman who has run away from his text, that's a comfort; besides, does not Miss Augusta Gushington declare that such run-off sermons (I have not run off the line, I hope) are freer, more natural, more earnest? &c.

But now to my text in all earnestness. A croquet ground with the earth at the edges running any way, is ugly—it is no ornament, that is certain. The prettiest I know is oval, this shape suits the game, it opens out beyond a small geometric garden, and has a grass bank all round save at the entrance and exit, this bank varies in height, but the average is 2 feet, then on either bank is a flower-border planted with standard Roses, Geraniums, Asters, &c., the side near the road has at the back a thick row of *Convolvulus major*, neatly trained as a screen. Some one asked a few weeks since, "How to make a croquet ground," but I purposely did not read the reply, and so speak simply my own ideas. The bank around is a great feature, the oval shape meets the eye pleasantly. Besides the bank prevents the balls rolling too far, and as ground has usually to be levelled, the spare earth is used on the spot. If flowers are not thought advisable, there are flowering shrubs in abundance for choice, or have old-fashioned border plants, why not? Croquet cannot be allowed to become a garden destroyer, and little square fields with nothing round them are very objectionable.—WILTSHIRE RECTOR.

### DESTROYING MILDEW—PREVENTING THE SPREAD OF THE POTATO DISEASE.

The article of "A COUNTRY CURATE," at page 105, appears to call for some remarks from myself. One side of this house is covered with *Esperione Vines*, of which I am excusably proud, and I have never allowed other hands than my own to interfere with their management, excepting once last year when I had nearly blinded myself by the frequent application of flowers of sulphur. In 1862, 1863, and 1864, these Vines were very subject to the mildew. In the first year of their being attacked, a muslin bag was made to do duty as a sulphur-duster; but in the spring of 1863, passing through the Pantheon, in Oxford Street, I stopped short at a stall to examine a sort of little mop with a cotton-wool head that caught my eye, and which was called a bottle-cleaner. I thought that it would do to dust flowers of sulphur over my Vines, and bought it. The bottle-cleaner answered the purpose, but it was so tiresome to be constantly clinging to a ladder by one's legs, with a soap-plate in one hand and flourishing the little mop about and under the fruit and leaves with the other, that it made me determine to carry out a threat I made against the Vine mildew, in Vol. XIX., page 368. In the beginning of July I filled the washing-copper with pure sewage from the tank and heated it, between nine and ten o'clock at night, to a temperature of more than 140°, and with this heated sewage I syringed the Vines most thoroughly without any dilution at quite 140°. I dislike a bad smell quite as much as our good friend Mr. Fish himself, and the heating process did bring out the fumes. I was awake by daybreak next morning, and eager to witness the effect. The blue mildew had turned quite black, and so it remained to the last on both the fruit and the foliage. The hot syringing with the sewage had entirely killed it, and what is better, not one particle of the disease has been seen upon the Vines this season.

As regards Roses, whenever I see a leaf disposed to mildew, and my Roses have been several times threatened with it this season, I place on the kitchen fire in the evening my special saucepan, which holds about a gallon of sewage, and when this becomes heated to 140°, I take the pot to the bush or tree affected, and syringe from it at once without any dilution of the sewage, which is the same as that mentioned by "A COUNTRY CURATE," at page 105, and then I can, in nine cases out of ten, say good-bye to the mildew. I do not usually now, and I did not in the case of the Vines, syringe with clean water afterwards, as the fine glaze of health on the foliage, after the overhead liquid manuring, seemed to indicate that such a course was unnecessary. It is, I conceive, the ammonia about the plant that benefits it and renders it distasteful to mildew and insects.

I have only used an ounce of tobacco this season for fumigating for brown aphids, which had attacked some Nectarines

in pots, and Peach trees against the wall of a lean-to orchard-house, when the leaves were very tender in the spring. The hot sewage is with me a remedy for all evils; but for dipping tender shoots in 125° is as hot as it should be. To dip or to syringe makes all the difference. I enclose you three specimens of Rose foliage which have undergone the operation that you may be enabled to judge with a powerful glass, how thoroughly the mildew has done its work on the cuticle of the leaves, and also how thoroughly the former has met with its death.

No. 1. Leaves of Empereur de Maroc, syringed sixteen days ago.

No. 2. Caroline de Sansal, syringed eight days ago. The most determined subject I have met with.

No. 3. François Lacharme, shoot dipped three days ago in sewage at a temperature of 125°. I syringed this bush also at a heat of 140°, and I cannot perceive that it has in the least injured some very fine blooms which it has upon it, and which I purposely allowed the liquid to come in contact with.

[On No. 1 the mildew was quite destroyed, but on Nos. 2 and 3 there were still traces of the mycelium.]

125° would be quite hot enough for syringing young tender shoots in spring in a greenhouse or vinery, and for that purpose care must be taken that the sewage is diluted with half its bulk of plain water. For instance, as I could not wash the walls or clean the glass of my small vinery last autumn so as to protect myself from the evils that Vines are heir to, I resolved to syringe the house and Vines with sewage, just as the infant clusters were showing this spring. I employed the above dilution at a temperature of 130°, in the evening, and shut up close. Early next morning I perceived from the drooping appearance of the foliage that it did not like it, so before the sun could shine upon the house, I shaded the glass over completely with a sort of cheese-straining cloth which I have nailed to thin deal parallelograms, the size of Cucumber-frame lights. These were kept on till the sun ceased to strike on the house, and then I syringed the Vines well with clean lukewarm water. The foliage was all right next day, and I have never syringed the Vines but once since, and that was just as the Grapes had finished setting. Last year I kept on syringing the Vines till the Grapes began to colour, but they did not show the nice evenness of bloom that they do now from not syringing. Both mildew and red spider have left the place in disgust.

Hot sewage is certain death to the mildew and insect tribe, when used in time; in fact, I have purposely allowed a Haron's Incomparable Pear tree to become as badly attacked with red spider as it could possibly be, and two syringings at 140° have nearly destroyed the whole of the insects, and by constantly syringing the trees right and left of it on the wall, these have been untouched. I am certain that if we are content to suffer a little from the disagreeable smell, syringing with sewage is one of the most beneficial and economical operations that can be performed for the health of our trees.

Mentioning the hot syringing to Mr. Murray, of the royal forcing department at Frogmore, as we were walking through the houses there last September, in connection with the subject he pointed out to me a pair of sulphur bellows invented by Mr. J. Lipcomb, Thames Street, Windsor, and capital they are for the purpose, casting the *boîte à houpe* quite into the shade. I procured a pair, costing 8s. 6d., this spring, but I am happy to find that I do not require to use the apparatus. It is excellent for distributing soot as well as sulphur, either of which is all the better for use if previously passed through a hair or finely-perforated zinc sieve.

I am in great anxiety just now about my Potatoes. The leaves became spotted three weeks ago, and the electrical state of the atmosphere since that time, along with prevailing rains, have kept me haymaking at the haulm at every opportunity—yes, haymaking, for I could not stand still and allow my Potato patches to become like a blackened, fetid dung-heap, which they presently would have done; and as to cutting away the haulm entirely that does more harm to the tubers than letting it alone, on account of the exuding sap from the close-severed stems running down and perpetually moistening the ground, and thus inevitably causing disease. Well, I cut away with the garden shears all communication between the foliage of the separate ridges, and cleared away the severed leaves; then with a Parkes's fork I turned and bore all the growing tops to the right-hand sides of the ridges, and with the fork slightly scratched the bare or left-hand sides, as well as the bottoms of the trenches. When the sun had dried the surface of the ground, and the uppermost side of the haulm, I imme-

diately turned the haulm over to the left-hand side of the ridges and again scratched the surface of the soil laid bare. Afterwards I took the opportunity whenever the sun had again dried the surface of the soil and the foliage to turn the haulm over. I believe that I shall save my crop from becoming diseased by the above method, and it makes me more in favour of the ridge-and-trench plan than ever. I could never have thought that Potato tops would have borne so much knocking about with impunity; and the sun soon converts the mildew-affected leaves, when these are turned over to meet its scorching rays, into tinder before the disease can be communicated to the stems. This rough mode of procedure, as regards the top, will, however, upset some nice calculations I was in hopes of being able to make this season to satisfy Mr. Abbey.

I have this instant come in from probing some roots on the ridges containing Fortyolds, Lapstone Kidneys, Hogg's Coldstream, La ntree's Seedling, and Daintree's Newest Seedling. The last I can speak of with unqualified praise this year, having grown it more largely. It is an improved early dwarf Lapstone Kidney, and it is entirely owing to the treatment that the original Potato suffered in the post-office three years ago, that I have been unable to fully learn its qualities till now. I cannot find a diseased Potato on those roots which I tried. They are all quite ready to be taken up. In fact, Hogg's and Daintree's Newest were ready to dig for store more than a fortnight ago had the weather permitted, and as soon as it proves propitious up they all come. The scab or rupture of the tissue of the skins of Potatoes which was the subject of inquiry lately from two or three correspondents, is, I conceive, brought on simply by the wetness of the soil, caused by the rain or otherwise.—UPWARDS AND ONWARDS.

## GARDENING AND GARDENS IN DORSETSHIRE.

THE REV. W. F. RADCLYFFE'S, TARRANT RUSHTON,  
NEAR BLANDFORD.

THE quiet and retired garden of the rectory of Tarrant Rushton, has become a classic spot in the annals of horticulture, and will long be retained in the recollections of the lovers of gardening—by those who have not had the opportunity of visiting it, from the large amount of solid information that has been imparted thence through the medium of various periodicals and direct correspondence with its kind-hearted owner; and still more strongly by those, who, like myself, have had the pleasure of seeing its "wonders," and have the happiness of sharing the generous sympathy and friendship of the good pastor.

A visit to Rushton has never failed to leave a vivid and enduring impression. Such would naturally be the case with any one who finds the subjects there treated identical with those to which he has directed his own attention. These subjects are both familiar and useful; and forming as they do items in all gardens, more or less, and, moreover, easy of comprehension, and within the reach of all, and hence the more generally diffused, the success achieved at Rushton stands out more prominently than if the plants under cultivation were rarities or less frequently met with than Roses and Strawberries.

The successful cultivation of the Rose and Strawberry, in connection with which Mr. Radclyffe's name has gained such a world-wide reputation, has not arisen from any accidental circumstances, such as favourable situation and suitable soil. On the contrary, at Rushton both are very unfavourable. Although a very inadequate idea of a garden can be gleaned from a written description, yet a brief account of Mr. Radclyffe's garden is necessary to enable your readers to form anything like a just estimate of the difficulties to be contended against in a spot of ground not altogether fitted for horticultural purposes.

The garden is rectangular in form, situated on the west side of the dwelling-house, the four sides nearly corresponding to the four cardinal points, and the longest sides are the north and south, which are walled. It slopes somewhat abruptly from east to west; the east side is bounded by the house and offices, and is partly overhung by some fine specimens of the Horse-Chestnut; hence that portion of the garden is deprived of the morning sun. These Horse-Chestnuts, I may remark, having been planted on the most elevated and driest part of the premises, have a remarkable growth and vigour, the foliage being particularly fine, and larger than I have ever before noticed. The west side of the garden, many feet lower than the opposite end, is guarded by a Thorn hedge about 9 feet



high. Close to it, on the other side, is a wide stream of water from the neighbouring mill, which in wet seasons overflows the adjoining meadows, and renders them little better than a swamp. All who have had any experience in gardening are aware how injurious and disappointing are the spring frosts which occur in our climate, to the detriment, and very often the total destruction of the tender shoots of our favourites; more especially do these frosts occur in damp and low places, and their effects are there more destructive. Owing, then, to the proximity of this swamp, the spring frosts in the garden at Rushton are an enormous difficulty to fight against.

The soil is light, with little depth, and naturally poor, and requires constant feeding with the best manures to enable it to produce a crop. Such is the place in which, in one of his quaint, good-humoured articles, Mr. Radclyffe tells your readers that he determined some years ago "to have a go at gardening." (*JOURNAL OF HORTICULTURE*, August 23rd, 1864.)

The subjects to which Mr. Radclyffe has devoted his attention are few—namely, Roses, Strawberries, and Peaches, to which may be added Raspberries, and latterly, chiefly, I believe, at the instance of Mr. Rivers, of Sawbridgeworth, Pears on the quince stock. His principle is, "keep a few things in your garden, and have them all well done." Keeping this simple axiom steadily in view he has brought to bear on the subjects he has undertaken an indomitable perseverance, an earnest search after the truth in connection with them, and an un-deviating consistency in the maintenance of it. No horticultural writer on these subjects enjoys a greater share of the confidence of cultivators. No one is more looked to as a guide and instructor in the selection of kinds, and the management of them. No one has done more to raise the public taste for good Roses, or to select with greater accuracy the best kinds of Strawberries out of the host of varieties continually sent out to tempt the unwary.

I propose to review each briefly as I found them on my late visit to Rushton.

Roses.—Owing to various circumstances I was unable to visit Dorsetshire in time to see them at the zenith of their first bloom; nevertheless, the evidence of what had been, from the quantity of flower-stalks left, and the excellence of the blooms remaining, was unmistakable. I was informed by Mr. Ford, a respected friend and neighbour of Mr. Radclyffe, that he had never seen such a mass of Rose blooms upon living plants concentrated in one spot before, a result the more to be admired from the great difficulties to be contended against in order to produce them. Mr. Radclyffe has made no secret of this success, the course pursued has been regularly and constantly imparted to the public. He may say of Roses and Strawberries as Franklin did of wealth—the way to obtain them is "as plain as the way to market," and others may have them as well, if they will but follow up the simple directions he has prescribed in his various articles.

The most important point connected with the Roses at Rushton is the use of the Manetti stock, of which Mr. Radclyffe has for several years past been an unflinching champion. Having now seen them there three times in very different seasons, I can fully corroborate all that Mr. Radclyffe has said about it; and using it myself in preference to any other, I have had the truth of his observations confirmed in my own garden. In a recent article on the Manetti stock, Mr. Radclyffe enumerates the following points of advantage (I copy from the "*Florist and Pomologist*," of March and April of the present year):—

1. Roses will thrive on it with less water and less manure than on any other.
2. They may be grown in lands where those on any other stock would be hopeless.
3. They are earlier, more abundant, more continuous, and later.
4. They will stand more violation from the weather, from fungoid diseases, and from neglect of the owner.
5. They may be removed and transplanted at any time and become quickly established.

With these results before us, the adaptability of the Manetti stock is conclusive enough.

In addition to the garden above described, Mr. Radclyffe has a plot of ground about half a mile distant entirely planted with Roses. This plantation may be said to consist chiefly of the well-established kinds on the Manetti stock, planted in rows, such as *Senateur Vaisse*, *Comtesse de Chabrilant*, *Jules Margottin*, *Mrs. Rivers*, *Victor Verdier*, *Madame Knorr*, and others that will remain in the catalogues for years to come.

The entire stock of Roses, although numerous, does not amount to so many as might be supposed. Every inferior or worthless kind, as soon as it is proved to be so, is rigorously weeded out. While retaining only kinds worth cultivating and bestowing upon them every care, Mr. Radclyffe's Rose culture is also essentially experimental. Thus we find some appropriated to beds, and others trained as pillars, others as climbers; some, again, are allowed to grow attached to high poles. These experiments are not confined to single specimens, every promising kind is allowed full scope suitable to its habit. The following are worthy of remark:—Climbers: *Solfaterre*, *Triomphe de Rennes*, *Aristide*, *Gloire de Dijon*; and among the Hybrid Perpetuals, *Duc De Cazes* and *Louise Carique*. Pillar Roses: *Manrice Bernardin*, *Duc de Rohan*, *Souvenir de la Reine de l'Angleterre*, *Anna Alexieff*, *Madame Plantier*, &c. Attached to poles are three fine specimens of *Duchess of Norfolk*. I once saw these covered with bloom from top to bottom, and they were most beautiful. To remedy the damp and unfavourable situation of the home garden, Mr. Radclyffe has adopted a very simple and at the same time very successful expedient. He has formed raised banks from 1 foot to 18 inches high, and about a yard in width, composed of the soil with a strong mixture of thoroughly rotten manure and vegetable ashes. He has on several occasions alluded to these banks and explained their composition. It is now, I believe, three or four years since he first applied this method, and it is upon these raised banks that many of the new Roses are tried. Their arrangement is such that the plants have the best possible opportunity of a fair trial. At the time of my visit, *Rushton Radclyffe*, *Duchesse de Caylus*, *Lord Macaulay*, *Leopold I.*, and *King's Acre* were in bloom, and several others would shortly be so, some of which Mr. Radclyffe has since reported upon.

Notwithstanding the vast quantity of bloom that had already passed away, the robust health and vigour of the plants in sending out new shoots was so great, that the term "perpetual" was literally accepted and accomplished. Both gardens had every appearance of being gay with Roses for weeks or even months to come.

With the recollection of the Crystal Palace Rose Show fresh in memory (it was two days previous to my arrival), I found the quality of the bloom at Rushton fully up to the mark. Hot weather is an advantage to Rushton, it will stand it when many other gardens would be burnt up. To see what could be done in the way of cut blooms, we rose early on the morning after my arrival, and looked over the whole stock, consisting of about 2000 plants, of which not less than 1600 are on the Manetti. With ease Mr. Radclyffe filled a box of twenty-four trebles, which, had they been shown at the Crystal Palace on the Saturday before, could not have failed to have taken an honourable position. To show the varied character of the blooms in this box, I subjoin the names, reading from left to right:—1st row: *Solfaterre*, *Prince Camille de Rohan*, *La Ville de St. Denis*, *Duc De Cazes*, *Schrismakker*, *Gloire de Santenay*, *Wilhelm Tell*, and *Senateur Vaisse*. 2nd row: *Pius IX.*, *Victor Verdier*, *Caroline de Sansal*, *Comtesse Cecile de Chabrilant*, *Clemence Joigneaux*, *Duchesse d'Orleans*, *Charles Lefebvre*, and *Triomphe de Rennes*. 3rd row: *Devoniensis*, *Général Jacqueminot*, *Comte de Nanteuil*, *Souvenir de la Malmaison*, *William Griffiths*, *Gloire de Dijon*, *Napoleon (Gallica)*, and *Madame Knorr*.

It will thus be seen that the old summer Roses find a place in Mr. Radclyffe's garden, and very justly so, for they still afford variety of tint and beauty not yet obtained in the Hybrid Perpetuals. A long row of them on two-feet Briars under the north wall, in excellent bloom at the time of my visit, was a marked feature of the garden. It will be a matter of regret that the summer Roses should be lost sight of in the increasing demand for Hybrid Perpetuals. Mr. Radclyffe has always maintained the right of the best of them to a place in the Rose garden, and has frequently given lists of those deserving cultivation. To remind your readers who may be planting at the season now drawing near, I add a list of the twelve best summer Roses selected on the spot:—*Charles Lawson*, *Coupe d'Hebé*, *Napoleon*, *Boula de Nanteuil*, *La Volupté*, *Madame Zoutmann*, *Kean*, *Paul Ricaut*, *Ohl*, *Wilhelm Tell*, *Madeline*, *Trancon Goubault*, and *La Ville de Bruxelles*.

Of course, the Hybrid Perpetuals form the bulk of the Roses at Rushton, and these principally in proportion to their quality, hence we find here—*Senateur Vaisse*, *Comtesse de Chabrilant*, *Charles Lefebvre*, *Jules Margottin*, *Triomphe de Rennes*, and *Gloire de Dijon* by the score; nearly as numerous are *Duchesse*

d'Orleans, Prince Camille de Rohan, Caroline de Sansal, Maurice Bernardin, and Duc de Rohan. Mr. Radclyffe tells us truly—"To form a good rosery begin with a hundred each of Jules Margotton, Senateur Vaisse, Cecile de Chabillant, Charles Lefebvre, and Prince Camille de Rohan, and you will have such a beginning as will take half a century to beat."—ADOLPHUS H. KENT, *Blechnigley*.

(To be continued.)

### SIR WILLIAM JACKSON HOOKER.

DEATH, in removing from us Sir William Hooker, has deprived us of one who has ranked among the most indefatigable and useful botanists of our time.

He was a descendant from "the judicious Hooker," author of "Ecclesiastical Polity," and other temperate works in divinity. His father was a brewer of high standing at Exeter, but Sir William was born at Norwich, in 1785. He concluded his education at one of the Scotch Universities, where natural history, to which he was devoted, was more fostered than in our English colleges. Eventually he became Regius Professor of Botany at Glasgow, and was the leader in forming the Wernerian Society of Edinburgh. Long is the catalogue of his literary contributions from his "Journal of a Tour in Iceland," in 1811, down to his last description, during the present year, of the plants in "The Botanical Magazine," of which he was the editor. Knighthood in 1835, and an Oxford honorary degree of D.C.L. in 1845, were well-earned acknowledgements of his services to botanical science. In 1841, upon the retirement of Mr. W. T. Aiton, he was appointed to the Directorship of the Royal Botanical Gardens at Kew, a fitting office which he ably filled and retained to the time of his death. He was a Fellow of the Royal and very many other British and foreign scientific societies. He died at Kew on the 12th inst.

### THE STRAWBERRY CROP IN YORKSHIRE.

As your correspondent Mr. Radclyffe has given you an admirable account of the various kinds of Strawberries he has this year cultivated in Dorsetshire, it may perhaps be interesting to your readers to learn what sort of a crop this fruit has produced in the hill country of Yorkshire.

Strange to say, many healthy plants of Keens' Seedling never flowered this spring. Eclipse, of which I had upwards of fifty well established plants, also refused to flower. Rivers's Eliza suffered so much from the dry weather that not one dish was gathered from about one hundred and fifty plants. Cox's Hybrid failed, for the first time since I received it from Mr. Nicholson, to produce an abundant crop. I still think this variety will continue in fruit a week later than Ingram's Late Pine. I am quite at a loss to account for the barrenness of these most hardy and healthy varieties, as the plants were strong and well established. It is, however, right that you should hear of failures as well as of successes. Ingram's Prince of Wales produced as usual a most ample supply of fine fruit. It is decidedly superior to Oscar, Sir Harry, Wonderful, Empress Eugénie, Victoria, Eclipse, and Keens' Seedling in flavour, and it has never failed for the last nine years to give me an abundance of fine highly flavoured fruit both for dessert and preserving. For quantity combined with quality I have not yet met with its equal. Crimson Queen and Frogmore Late Pine have both produced a most remarkable quantity of large first-rate fruit. These two varieties are worthy of being extensively cultivated, especially the Late Pine, which is the best late pine-flavoured Strawberry in cultivation. My gardener tells me he can gather a dish of this variety to-day, the 11th of August.

My favourite, La Constante, yielded as usual a splendid crop of its most delicious fruit. It exhibited no signs of burning nor of not being summer-hardy throughout this most dry and scorching season. Here, in Yorkshire, La Constante does not require to be treated as an annual, for it continues to increase in strength and productiveness until it has reached its fourth year. My three-year-old plants gave me by far the best crop, while runners, obtained somewhat late last year, also flowered and bore fine fruit. I shall not throw away a single plant, but manure my whole stock heavily in the winter. This variety is also especially suitable for gardens which are exposed to late spring frosts. Last year the frosts of the 4th and 5th of June made sad havoc among my Strawberry plantations. The

flowers of La Constante alone escaped injury; being carried on short footstalks they were almost entirely covered and protected by the leaves. This variety cannot be said to be especially slow in making runners, as my gardener planted no less than two hundred and fifty fine runners on the 3rd of August.

Mr. Dean, of the Bradford Nurseries, Shipley, was good enough to pay me a visit this summer. He examined and tasted all my different varieties of Strawberries, and would, I am sure, gladly confirm the correctness of much that I have stated. Can any of your readers afford me any information concerning those seedlings of La Constante which were sent out last year by M. Gloelle—viz., La Favourite, La Fertile, Bijou, &c. ?—A FRAGARIAN.

### VISITS TO GARDENS PUBLIC AND PRIVATE.

M. AMBROISE VERSCHAFFELT'S, GHENT.

EXTENSIVE and important as M. Van Houtte's establishment is, that of M. Verschaffelt is equally so; and to an Englishman perhaps more interesting, as it is more on the model of one of our home nurseries, dependant on private enterprise, and worked out with an energy and independence that reminds one of some of the foremost names in our own country. There was, too, a neatness and regularity in the arrangement of the whole place which is so very unlike what we see in the French nurseries, that to an eye with which these qualities find favour it was very refreshing. The same character appertains to all the establishments which I have seen in Belgium, leading one to the belief that their old connection with that cleanest of all countries, Holland, has inoculated them with these properties.

Among the most interesting plants to a visitor are unquestionably the magnificent specimens of tree Ferns which M. Verschaffelt has collected, and these grown in a house which is sunk some feet below the surface. In this condition they were growing most luxuriantly, as it seems most conducive to the maturing of the stems. Besides the well-known forms of Cibotium, Cyathea, Dicksonia, &c., M. Verschaffelt had two very interesting specimens—one, Cibotium regale, far finer than even Schiede's or princeps, and another but unnamed species: these were said to be the only specimens in Europe, and were certainly very interesting. But alas! there are so few, comparatively speaking, who can afford room for these Goliaths of the Fern tribe, that the crowd must be satisfied with looking at them in other people's houses rather than their own; not so, however, with the Camellias and Azaleas, which are here grown to a large extent and in great perfection. It is known, perhaps, to many, that M. Verschaffelt is the editor and publisher of a work called, "Nouvelle Iconographie des Camellias," the publication of which has now extended over some years, since 1849, and which contains from that period up to 1860 no less than upwards of 500 Camellias, and this list is still going on. It may be imagined, then, what a *specialité* they form in his establishment: they are to be seen in thousands, from the little plants with two or three leaves up to large bushes 7 or 8 feet high, although the latter are now becoming very difficult to procure, the demand for them in all quarters having been so great. A little knowledge of M. Verschaffelt's extensive collection might be valuable to some parties nearer home, for I find that a variety received last year distinguished honours as a novelty which was figured in his "Iconographie" for 1850—fifteen years ago, and which he is now selling at two francs a plant—certainly not to my mind a novelty, however beautiful it may be.

Azaleas, too, were to be seen in all sizes; the larger ones of a very different shape to the erinolines which we are in the habit of seeing at our exhibitions—a form which is an abomination in the eyes of the Belgian growers, and indeed in those of some nearer home. Their treatment of the Azalea is very different, too, from ours, and I suppose could only be carried out in their climate; certainly it would not do in ours. After they have done flowering they are clipped all over with a pair of shears, and then placed out of doors in order that they may the better break. When I was in Belgium, in June, they were then beginning to push vigorously all over, and would remain in the same quarters, mostly in sheltered alleys, during the summer months. I need not say how widely different this is from the plan adopted by our best growers of hardly ever allowing their specimen plants to go out of doors. Indeed, some never do; but then the drenching rains to which we are subject, and the lower temperature of our climate, make this necessary. Amongst the best and newest varieties were the semi-double Reine des



Beautés, Jacques van Artevelde, and Souvenir de Prince Albert; and of the single kinds, Charles Enke, Duc d'Arenberg, Souvenir de Mieliez, and Madame Verschaffelt were highly spoken of. Some of these we have seen and appreciated on this side of the Channel, others we have yet to see.

M. Verschaffelt makes the same remark that others have done as to the paucity of amateurs, especially amongst the choicer plants, such as Orchids. He has himself a nice collection; but Belgium does not contain, any more than France, men of the Day, Warner, Turner, and Bateman stamp, who spare no pains or expense in order to procure their favourites, and whose growth of them is a marvel of skill and perseverance, and whose liberality has a reflex influence on such establishments as Veitch's, Williams's, and Low's; while, on the other hand, plants which are but little prized, comparatively speaking, by us, are there highly prized and find a ready sale. *Zamias*, including fine specimens 8 or 10 feet high of *lanuginosa*, *Altensteinii*, and *Lehmannii*; *Pandanus*, including the sweet-scented *odoratissimus* and the graceful *elegantissimus*; *Stephensonias* and *Palms* of various kinds, *Agaves*, and other plants of a similar character, are all greatly run after for the decoration of houses, courtyards, &c.; and hence in all these establishments will be found a much larger collection of such things than we are wont to see on this side of the Channel.

Amongst the most interesting plants that I saw here was *Clerodendron Thomsone*, which hitherto we have only seen grown as an exhibition plant, trained and tortured on a trellis. Here it was planted out in a pit, and suffered to run along the rafters, the more luxuriant shoots being cut back, and nothing could be more telling than were its clusters of pure white and crimson flowers hanging down all along the roof. I hope to see it one day so grown over here. I am sure Mr. A. Henderson, of Wellington Nursery, could not do better than treat it thus; and he will as much please the numerous visitors to his nursery by it as he has already done by his successful treatment of *Lapageria rosea* and *Cianthus Dampieri*. By-the-by, he mentioned to me the other day that he believed the former of these would prove to be a hardy plant.

I here also saw *Lilium Brownii* or *japonicum* flowering freely, and a very beautifully shaped white Lily it is; one hardly ever sees it over here, it being said to be difficult to grow. M. Verschaffelt finds no difficulty with it, and I noticed that he had a piece of drain pipe laid round the stem almost 6 inches up and filled with light peaty soil, in order to encourage the growth of the young bulbs which are formed at the joints. *Lilium auratum* was of course grown and held in as much estimation over there as with us, while one, which has been snubbed here, but which I believe will eventually be looked after as a fine showy plant, is being brought out by M. Verschaffelt as *Lilium staminosum* at twenty-five francs a-piece. It is the variety which was pronounced a monstrous form of *Lilium Thunbergianum*, and considered worthless; and I can testify that it is far from that. I had a bulb which formed a corymb of flowers six in number, and I can safely say that it was a very bright and showy-looking plant. Since it went out of flower in the spring it has formed another shoot from the side of the old one, and this will be in flower in a week or two; its habit, too, is very dwarf, compact, and vigorous—in fact, I look upon it as likely to be a valuable decorative plant.

M. Verschaffelt has a large and fine collection of the *Pelargoniums* which we call French, but which are known in Belgium as *Pelargonium Odier*; they are much more valued abroad than our more regular flowers, owing to their showy character for room decoration. Amongst them are unquestionably many flowers of very striking colours and brilliant appearance. Amongst the plants suitable for bedding purposes, I saw a good quantity of *Achyranthes Verschaffeltii*, which we know on this side of the Channel better as *Fresine Herbstii*; it has been condemned in a contemporary's notice of the Battersea Park garden, but I think unjustly; it undoubtedly has not the fine brilliant crimson tinge of *Coleus Verschaffeltii*, which was in an equally hasty manner condemned at first, nor, perhaps, even of *Amaranthus melancholicus ruber*; but then one wants different tints, and this, I think, will afford an opportunity for variety. It has been warmly received on the continent, and will I think hold its ground amongst plants of a somewhat similar character, with odd colouring for out of doors. I noticed *Teleianthera nicoidea versicolor*, which rejoices in bright sunlight, and has a curious fashion of curling the edges of the leaves.

But I must forbear. Suffice it to say that I was most kindly received by M. Verschaffelt, who is a man of most genial spirit, and, as every successful horticulturist must be, an enthusiast in

his calling, and will gladly show all his treasures to any who can appreciate them. Besides being the editor of the work on *Camellias*, M. Verschaffelt is the publisher also of "*L'illustration Horticole*," which is, however, edited by M. Charles Lemaire.—D., Deal.

## PLANTS FOR ROOMS.

(Continued from page 107.)

APRIL.—From the stove *Amaryllises* will come freely, and the variegated *Begonias* there will now be fine. They, with *Achimenes*, *Gloxinias*, and *Gesneras*, will do equally well in the early vinery, which must be cleared of the *Calceolarias*, *Cinerarias*, now blooming, and the *Pelargoniums*, by the end of the month, after which time it will be a stove, and may be employed for all stove plants that require to make a vigorous growth and then rest. There will be no lack of subjects for vases in this month, *Cinerarias*, *Calceolarias*, forced *Deutzias*, *Diclytras*, *Weigelas*, *Rhododendrons*, *Azaleas*, tree *Violets*, and many other plants already named will be in perfection, and soon afterwards similar subjects will come in from the cool vinery, which will now also be fast becoming a stove. Pits or frames must now be in readiness for the *Cyclamens*, *Epacris*, *Correas*, and all plants that require a greenhouse temperature, except *Camellias* and *Azaleas*, which should be placed in heat to make new growth, and be kept there until the buds are formed. As the forced plants are taken from the early vinery take advantage of it to ease the stove of such plants as *Gloxinias*, *Achimenes*, *Gesneras*, *Begonias*, &c., paying strict attention to the plants in it for autumn and winter blooming, potting, and encouraging them with plenty of heat, moisture, and air, to make strong growths. *Cyrtoceras reflexum* does not suffer from a sojourn of a few days in a room, nor does *Hoya bella*, and both are charming plants for blooming in summer. They will now be in a forward state for that purpose. *Justicia carnea* will be showing its fine heads of bloom, and should be liberally supplied with liquid manure. The *Otaheite Orange* will be none the worse of being retained in the early vinery after flowering, for the fruit will then swell and be ornamental in winter. *Pot Solanum capsicastrum*, and grow as pyramids in a frame. Place *Caladiums* in the early vinery, and from receiving more air they will not suffer so soon when employed in doors, which should only be on special occasions. Pot more *Gloxinias* and *Achimenes*, also *Gesneras*, they will come in late, and may be grown after a time in the cool vinery. Repot *Celosias*, *Cockscombs*, and other annuals, making sure of a few pots of *Isolepis gracilis*. *Cyperus alternifolius*, and its variegated variety, are charming for vases and dinner tables. *Tradescantia zebrina* is now to be potted and placed in a vinery; it will live in a room where nothing else will. Strong cuttings of *Dracena terminalis* put in now in the stove will have fine foliage in winter, and not less ornamental is *Ficus elastica*. *Clerodendron Dungei* potted now and grown on will be useful in September; it will do in a cool vinery if it only have light. Pots of *Lilium lancifolium*, *L. auratum*, and *Tritonia aurea* will do very well in a cold pit, and the bulbs will bloom in August. Sow *Humea elegans* in the vinery for decoration in the June of the following year; it is the most graceful and elegant of room plants. Grow it in a cold frame after June, potting and treating it in every way like a *Calceolaria* or *Cineraria*. Seed of the last should now be sown, and old plants which have ceased blooming should be placed in a cold frame.

MAY.—We must now have *Gloxinias* in bloom in the stove, *Achimenes* close in their wake, *Gesneras* coming after them, *Begonias* and *Caladiums* in full beauty, and something to set in vases. We should also have *Azaleas* in a cool vinery, and *Hydrangeas* in the early one, *Fuchsias* in full flower, a few *Pelargoniums*, and *Coleus Verschaffeltii* as pyramids a foot high, with the point of every shoot pinched out. *Pelargoniums* for June and July will be in a cold pit along with *Fuchsias* for August, *Celosias* in the early vinery, and *Cockscombs* on a shelf in the stove. Pot-off *Balsams* now, and sow more. The time is, however, come when there will be plenty of flowers out of doors, or preparation made for having them, rendering plants in a room of less consequence. We must, however, look beyond this period of sunshine and flowers, and have plants for the vases in winter. Cuttings or young stock of various winter-flowering plants coming on, also old plants cut back and making vigorous growth, should be repotted, and encouraged to make their wood early and ripen it well. *Cinerarias* just potted off may be kept in a cold frame, along with *Calceolarias*, for autumn blooming. Besides these we must have young and

flourishing plants of *Chrysanthemum*, *Crowea saligna*, *Epacris* cut-in and shooting freely, *Mitraria coccinea*, and some of the better kinds of bedding *Geraniums* for July and August, as well as *Tea* and *China Roses*. All plants done blooming should be managed so as to secure their blooming another year by giving each the treatment necessary for it.

Early in May the late vinery will be cleared of all greenhouse plants that have not flowered, especially *Pelargoniums*, *Cinerarias*, *Fuchsias*, and *Calceolarias*, which do better in pits after this. It will then become a growing-plant-house, and will be useful for subjects coming on for autumn and winter blooming, as well as for *Camellias* and *Azaleas* to grow and form their buds. The very handsome *Bambusa gracilis* will now be fine in the cool house, and fit for any vase, but keep it no longer in the house; it is very liable to red spider. *B. Fortunei variegata*, the very best of dwarf kinds, will be fine all the summer in a cold frame. All hardy plants which have been forced should be hardened off in a cold frame prior to being fully exposed; they may then be plunged in the pots in coal ashes in a sunny place. With a few exceptions, such as *Duetzias*, *Dielytras*, &c., they will require a year's rest; some, such as *Hyacinthus*, being of no further use, may be planted in borders. *Indigofera decora* now potted and placed in a cold pit will come in for August, and forward plants of it will now be in flower. *Erythrinas*, which well deserve more attention than they receive, if encouraged a little now will bloom well in two months, and they are best grown in pits. *Calceolarias* for blooming next spring should be now sown in a frame, or under a hand-glass in a shady place. *Primulas* for autumn blooming should be potted and encouraged in a cold frame. The early vinery will now have no plants in it that require much moisture, its contents being chiefly confined to *Gloxinias*, *Achimenes*, *Gesneras*, and *Begonias* far advanced for flowering, and those plants that are fast completing their growth, as *Epiphyllum*, *Amaryllis*, and *Vallota purpurea*; the last if going to rest now will most likely flower in autumn. It will also suit *Bougainvillea* species when good growth has been made, and plants requiring the wood to be well ripened, but no others; for, when the Grapes change colour, though moisture may help to swell the berries these will not colour well; and if a growing moisture is kept up, the flavour of the Grapes, whatever the colour may be, will be poor, instead of brisk and refreshing. The end of this month is the best time for putting in cuttings of spring-flowering greenhouse plants, and as quantities of these are in request take the cuttings from the half-ripened shoots and insert them in sand under a bell-glass in a gentle heat. They will strike in about six weeks, and may then be potted off and grown in the late vinery until August, when a frame would suit them better. Repot *Epacris* after they have made new growths a few inches long. *Cyclamens* to be plunged out-doors in a sunny place at the end of the month, or early in the next.

JUNE.—The early *Camellias* should be taken out and placed in a cold pit for a few days to harden off, and the same with *Azaleas*. Nothing should be kept in this house after this time but what will accommodate itself to the Vines. All greenhouse plants in the cool vinery to be placed outside in a sheltered place, and the house occupied with *Cockscombs*, *Celosias*, *Ferns*, *Lycopods*, *Begonias*, *Gloxinias*, *Achimenes*, *Gesneras*, and *Lilium lancifolium*, which will now be fine from the early vinery. The stove will furnish but few flowering plants this month, but will contain *Caladiums*, *Marantas*, *Dracenas*, and other variegated plants, as well as plants advancing for autumn and winter bloom. The frames will give *Fuchsias* and *Pelargoniums*. The spring-struck *Fuchsias* should now be potted for the last time. Towards the end of the month, *Cyclamen europæum* must be potted and placed in a cold frame, it will certainly bloom in September if not in August. *C. neapolitanum* to be served in like manner at the end of the month, as we must have it in October. Look out for runners of *Violets*, and pot them forthwith. The double purple, tree, and *Neapolitan* are the best for scent and rough usage. The frames will supply any deficiency in the houses in the shape of variegated and *Zonale Geraniums*. Stop and cut *Nosegay Stella*, *Baron Ricasoli*, and any others of that class, and also repot to have them in order for September. Pot early *Chrysanthemums*, stop them, and supply liquid manure at every alternate watering. Layer into six-inch pots shoots of *Chrysanthemums* with nice branching heads, layering as near the head as possible. They will root well in about six weeks, and should then be detached, but not until the pots are filled with roots; they make excellent dwarf bushy plants for small vases. Cuttings of the shoots pinched off now should be put in and never stopped, but

allowed to go on for bloom. Those struck in April should be stopped and potted for the last time, and any large specimens should be stopped and trained, after shifting into their blooming pots. *Witsenia corymbosa* will do admirably in a cold frame or pit at this season, and bloom finely in August. *Rhododendron jasminiflorum* will also do well in a frame in summer, and should now be potted. It will bloom next April in a cool vinery, and is one of the sweetest and handsomest plants we have, the flowers being of so pure a white. *Gesneras cinnabarina*, and *zebrina splendens*, to be started for winter blooming; continue to pot off and forward *Gloxinias*, *Achimenes*, and *Gesneras* as they require it. For autumn bloom, seedling *Gloxinias* do best; they are now to be potted. *Cactus speciosissimus* placed in the cool vinery now and kept there until August, then placed out of doors close to a south wall for a couple of months, will bloom next May. It is inferior to no plant at that season for the fine display which it makes. Cuttings of *Torenia asiatica* inserted in March will need potting into their blooming pots; elevate the pot and allow the shoots to hang over it. This plant will look well hanging over the sides of a vase when covered with its porcelain flowers in September and October. Pot *Statice brassicifolia* now, and grow in a cold frame; it may throw out its spikes in September and be in bloom all the winter in a vinery. Young plants of *Statice imbricata*, *profusa*, *propinqua*, and *foliosa* should be encouraged with liberal pot room and a place near the glass in a cool vinery. *Myrtles*, common and doubled-flowered, nice compact dwarf plants, may now be potted, and encouraged with moisture in a cold frame. Pot, train and encourage young stock, keeping the plants clear of insects.

JULY.—The most forward *Balsams*, *Cockscombs*, and *Globe Amaranthus* will be in flower, and the *Celosias* towards the end of the month, as well as *Rhodanthe Manglesii* and *Thunbergias*, *Gloxinias* and *Achimenes* being plentiful, and the summer-flowering *Begonias* in perfection. *Zonale* and variegated *Geraniums*, with *Verbenas* and *Petunias*, will supply the place of florists' *Pelargoniums*. There will also be *Fuchsias*, *Ferns*, *Lycopods*, and variegated *Begonias*. The majority of winter-blooming plants, such as *Eranthemums*, *Thyrscantius*, &c., young stock of *Poinsettia* and *Euphorbia*, will now require to be shifted into blooming-pots. *Camellias*, *Azaleas*, and the whole of the winter and spring-flowering greenhouse plants may be placed outside in an open situation, and if protected from the midday sun all the better. This should be done early in the month, or, if the plants are forward, a fortnight or three weeks earlier. *Correas* and *Epacris* should, however, still be kept in frames for protection from heavy rains, giving all the air possible. Pot the most forward *Primulas* in six-inch pots, and keep near the glass in a frame. *Cyclamen coum* and *Violets* to be potted at once in six-inch pots, keeping cool and moist. Pot *Calceolarias* into their blooming-pots, as they will soon show for bloom. *Cyclamen europæum* to be accommodated with a place in a frame; and *C. neapolitanum*, both red and white, to be potted if still delayed, and accommodated in like manner towards the end of the month, at which time stop some of the *Chrysanthemums* for a late bloom. Pot-off *Primulas* for spring blooming, also *Cinerarias*; the latter, if for autumn display, to be put in their blooming-pots at once. Now is the time to fill a frame with *Tea-scented Roses* that have been disbudded up to this; allow them plenty of air, using the lights only in very wet weather. This is also the time, and only time, to stop *Nosegay Geraniums* for an autumn bloom, and after they have made new shoots pot, and afterwards grow them in a frame. *Pelargoniums* to be cut in. *Mignonette* for winter bloom to be sown. Intermediate Stocks to be sown the first week in an open situation, there to remain until October, when they may be potted in small pots, and kept over the winter in a cold frame, potting in March into 24's for blooming in April and May. *Gesnera purpurea macrantha* to be potted and placed on a shelf in the stove. It will come in for winter and spring blooming. *Tuberoses* will now come in. *Tritonia aurea* will be in fine bloom, and the *Liliums* in pits will soon follow. Continue to pay attention to late plants of *Gloxinias*, *Achimenes*, and *Gesneras*, they will do well in the cool vinery, which towards the end of the month must be cleared of all plants requiring much moisture. It will answer admirably for any plants which have made their growth, and require their wood to be hardened. *Gesneras cinnabarina* and *zebrina* for winter bloom to be potted off, and grown on in the stove. Put in cuttings of *Coleus Verschaffelti* in the stove, and pot-off when rooted, growing on until October, then shift into six-inch pots. It is one of the finest plants for



winter decoration, and requires to be kept growing all the winter in the stove.

**AUGUST.**—Much the same as last month as to the materials at command for decoration, which it would be needless to recapitulate. Pot *Cyclamen vernum*, and place in a frame, also varieties of *C. Atkinsi*. *Cinerarias* and *Calceolarias* for autumn bloom should be placed in a frame where they can be protected from excessive rains, and do not allow them to suffer from drought. Pot a few *Chrysanthemums* for a late bloom, stopping them at latest by the middle of the month. Examine the state of the roots of the winter-blooming plants, and if any are inclined to become pot-bound give a shift: they will make a succession to the others, and be finer. The winter-flowering *Begonias* that have been rested to be shaken out, potted in smaller pots, and encouraged in the stove. In addition to those named already, I may note *B. prestoniensis* as a fine kind for winter. Plants kept growing slowly until this period and then placed in the stove make fine growth, and bloom a long time. *B. fuchsoides* and its variety *miniata* having now their old flowering shoots cut away, fresh-potted, and placed in the stove, will make handsome plants after awhile. *B. Dregei* potted now, and the old wood cut out, makes a fine plant for late autumn blooming. *Deutzias*, *Weigelas*, *Prunus*, and other plants intended for forcing to have full and free exposure to ripen their flower-buds. *Pelargoniums* headed back last month to be potted, and placed in a frame. Pot suckers of *Cinerarias*, and place in a frame, and continue to encourage *Primulas* by potting. *Celosias* and *Balsams* will do much better in frames than in vineries at this season. *Impatiens Jerdoniæ* will be coming into bloom, give it an airy light situation in the stove. Sow *Mignonette* for spring, and *Cinerarias* for a late spring bloom.—G. ARBET.

(To be continued.)

### THE BEDDING-OUT AT KEW GARDENS.

On entering the gardens the first object worthy of notice is a pattern of scrollwork on grass in front of the Grecian conservatory. It is planted alternately with Sweet Alyssum and *Lobelia speciosa* as an edging; then two rows of Punch Geranium, and two rows of *Calceolaria amplexicaulis* in the centre. The next is a crescent-shaped bed planted with *Rhododendrons*, edged with Purple King Verbena; then Bijou and Christine Geraniums. This edging reminded me of two beds at Cremorne Gardens planted with Bijou Variegated Geranium mixed with Purple King Verbena, and edged with *Perilla nankinensis*—the best beds in that place.

By the long walk leading to the Palm-house the beds are circles and oblongs, match pairs at each side, and planted similarly. The first circles are planted with *Lobelia speciosa* edged with Sweet Alyssum. Next come beds planted with Purple King Verbena, edged with *Tropæolum elegans*; then beds divided into four parts diagonally by single rows of Bijou Geranium—the two sections east and west contain Tom Thumb Geranium, and the sections north and south Cerise Unique Geranium. Then come circles of *Coleus Verschaffelti* edged with *Gnaphalium lanatum*, and beds of *Calceolaria amplexicaulis* edged with Brilliant Geranium; and then beds of Roses, which would look better as dwarfs pegged down to correspond with the other beds. Next come circles composed of *Lobelia speciosa* edged with *Arabis lucida variegata*; then beds of *Cybister Nosegay* Geranium edged with white *Centaurea*: beds divided into four parts by Tom Thumb Geranium, the east and west sections being Bijou Geranium, and the north and south Golden Chain Geranium, edged with *Lobelia speciosa*; circles of *Gnaphalium lanatum* edged with *Amaranthus melancholicus ruber*; beds of Purple King Verbena edged with two rows of Christine Geranium; circles of *Cybister Nosegay* Geranium edged with white *Centaurea*; and then beds of Flower of the Day Geranium in the centre, then a row of Brilliant Geranium edged with two rows of Purple King Verbena.

At the cross walks are match beds of *Ageratum mexicanum* edged with Lord Palmerston Nosegay Geranium; then follow circles of *Gnaphalium lanatum* edged with two rows of *Coleus Verschaffelti*; beds of Purple King Verbena edged with Victoria Geranium, a good pink, larger and better than Christine; beds divided into four parts by Little David Geranium, the east and west parts being Bijou Geranium, the north and south Golden Chain Geranium, edged with *Lobelia speciosa*; circles of *Lobelia speciosa* edged with *Arabis lucida variegata*; beds of *Cybister* Geranium, edged with white *Centaurea*; circles of *Iresine Herbstii* edged with Variegated Mint (the *Iresine*

*Herbstii* looks well here); beds of *Calceolaria amplexicaulis* and *C. Westwood* edged with two rows of Brilliant Geranium; beds divided into four parts by Flower of the Day Geranium, Cerise Unique Geranium being in the north and south divisions, and in the east and west ones Tom Thumb Geranium, edged with a row of Bijou Geranium; circles of Sweet Alyssum, edged with *Lobelia speciosa*; and lastly, beds of Purple King Verbena edged with *Tropæolum elegans*.

At the end of the long walk is a magnificent circle. It is 36 feet in diameter, and has a rich, massive, moulded edging of terra cotta 15 or 18 inches high. The bed is raised up as a pyramid, and in the centre is a very handsome flower-vase with pedestal and plinth. This bed is divided into four sections by *Coleus Verschaffelti*, and planted with white *Centaurea*; then a broad band of scarlet Geranium, edged with *Lobelia speciosa*. On both sides are beds parallel with the walks, leading to the museum on one side, and to the Palm-house on the other. These very effective beds are divided into chain-like compartments by Purple King Verbena; the centre, Brilliant Geranium; and the sides filled up with Rose Queen Geranium edged with *Gnaphalium lanatum*. Then come circles of Purple King Verbena edged with Golden Chain Geranium; beds of *Calceolaria amplexicaulis* and *C. Westwood* edged with two rows of Brilliant Geranium; circles of *Gnaphalium lanatum* edged with *Coleus Verschaffelti*; and crescent-shaped beds with *Perilla nankinensis* in the centre, then Punch Geranium edged with Variegated Mint.

Standing in front of the Palm-house the terrace garden is seen to great advantage. Two vases in front and other vases at the head of the lake are all filled with scarlet and Nosegay Geraniums. The two large circular beds in the middle compartments are divided into eight sections, four of scarlet Geraniums, four of Flower of the Day Geranium, there being in addition a circle of *Lobelia speciosa*, and a broad band of *Gazania splendens*, with vases in the centre filled with *Cybister Nosegay* Geranium. The patterns at each side are duplicates and planted alike. The centre beds in the middle of the figures are planted with Bijou Geranium, with an edging of Lady Plymouth Geranium, and patches of *Coleus Verschaffelti* around the pedestals of vases filled with Scarlet Geraniums. The crozier-shaped beds are planted with Lord Raglan Verbena, then *Calceolaria amplexicaulis*, finishing with *Iresine Herbstii*. The saddle-shaped beds are planted with Christine Geranium; the pentagon beds with Purple King Verbena; the triangular beds with *Lobelia speciosa*, and the end circles with Cloth of Gold Geranium. The corner beds at the angles are planted with Tom Thumb Geranium. This pattern is tastefully arranged, well balanced, and not overloaded with scarlet, which is the prevailing colour in most places.

I was glad to see the bedding-out plants named. The large tallies and the beautiful writing of my friend, Mr. Greenhead, in the beds on the south side of the main walk, and in the terrace garden, were so conspicuous that you could "run and read," and at the same time they did not mar the general effect, but contributed to the information of the thousands of visitors who loitered about these lovely beds.—WILLIAM KEANE.

### LILIUM AURATUM.

HAVING seen at Mr. Veitch's nursery the plant with twenty-nine flowers, submitted to the Floral Committee of the Royal Horticultural Society on the 8th inst. as an extraordinary specimen of cultivation, I submit the following account of a plant of this Lily under my charge.

The flowers, it will be observed, are not so numerous, but are nearly double the size of those on Mr. Mills' plant. One bulb has this year produced two stems, each 24 inches in circumference at 6 inches from the surface of the soil, the highest stem measures 8 feet, the other 7 feet 9 inches, with a total of 185 perfect leaves and 20 flowers; this is one of the finest varieties I have seen. The first and strongest offset I had from the above has this year produced three flowers, each 13 inches in diameter.

Allow me to add that I shall feel pleasure in showing the above to any one interested who may favour Bow Bridge with a visit.—R. BULLEN, Gardener to A. Turner, Esq., Bow Bridge, Leicester.

SEEDLING PELARGONIUMS FLOWERING THE FIRST YEAR.—At page 128, a doubt is expressed as to the possibility of a *Pelargonium* raised from seed in March, being in flower in August.

I last year raised about a hundred seedlings, the seed being sown in February. Two of these seedlings flowered in the autumn, but I do not remember the exact date. They were raised in heat, but as soon as they were potted off they had only greenhouse treatment.—P.

### MY PLANTS.

AND HOW AND WHERE I FOUND THEM.—No. 8.

IN the spring and summer of 1862 we were sojourning in the proud old county of Norfolk, that county of noble families of "lang pedigree," and of broad and well-cultivated lands. It is not, however, of these that I am going to write, but of one small portion of that county in the neighbourhood of East Dereham. I daresay many in that locality think of it simply as a bog—a thing to be avoided on dark nights, especially when returning from the alehouse at midnight, for, I regret to say that, noble as this county is, it is by no means free from those ignoble pests of our English towns and villages, the public-house and low beershop. It is impossible to say how many aching hearts now at rest in that silent churchyard close by have lain them down out-wearied with the care, and anxiety, and grief brought to them on the wings of that unhallowed laughter and witless jesting within those curtained rooms at the village alehouse! A fine and handsome face is shadowed on the blind; laughter, songs, and swearing are within. A thin, anxious, and careworn form is watching from without; tears hot and fast fall down her cheeks. She kisses that small bundle within her shawl, and bitterly retraces her steps. Many a time she pauses and listens, listens for that one loved foot-fall—for him who is still her idol, though so ill deserving of her love. Late on in the night he stumbles home, falls across the bed, from whence proceed the infant's wakened cries and the mother's stifled sobs. In the morning he knows nought of the night's anguish, and, whistling, leaves his home and mixes with his fellow men. In the evening he "seeks it yet again." She, with a heavy heart, coldly and slowly labours out her day; and in due time, when grief has done its work, she, too, lies her down with her sorrow-laden sisters to await that last awaking and final reckoning which must come both to husband and wife alike.

But let me quit this sad subject for hours of happy memories, of pure delight amongst those much-neglected children of the water and the fen—beauties overlooked by the casual passer-by, but which had accidentally been mentioned to me. Hours and hours of the long summer days I spent in Scarning Fen, until it became quite a byword amongst some friends of mine. "Scarning Fen again?" Yes! I was mad about the place, for the time being there was no doubt of it. The heat of the morning certainly did not find me there; but still I was generally employed at home in drying and arranging specimens collected on the previous day. An early dinner, and off again; through the town, down a passage to your right, across the railway and some fields, and you are soon and almost imperceptibly upon the spot! I can scarcely describe the delight with which I always crossed the style separating the fields and the Fen. The moment you were over, had the fields been ever so dusty, you came at once upon the most beautiful wet moss and the charming Sundew. A carpet of moss and Sundew!—could anything be more luxuriously and botanically romantic? A pool of water stretched away to the right, containing that vestal queen of aquatic plants, the white Water Lily, in garments of green; and close by, its sisters with the golden hair and green drapery all floating on the water. Rushes and Sedges, handmaidens to the Lilies, waved their adulations, or whispered love songs to the winds which played between the leaves. Many a lecture did my prudent medical husband give me; and, must I confess it?—they fell unheeded. What was it that I returned home with wet feet? Had I not been to the shrine of the goddess of water flowers, and should I return with no sign of my mission? The moment I entered that Fen I forgot the world around. An ignis-fatuns seemed to be before me. From one spot to another I stepped, occasionally choosing an unsafe tuft and getting ankle deep in mud, but generally keeping pretty close to the pool in which were the yellow and white Lilies. Beyond the water, towards the Scarning side of the Fen, lay a large piece of turfy grass, and there, upon some of the little hillocks, we would rest for a while to look over our gathered treasures. Ling and the *Erica tetralix* were grouped around us, and the pretty *Pinguicula vulgaris*, or Butterwort, with its tuft of bright green leaves lying close to the ground, from the centre of which rise

its delicate purple flowers. I think this Fen contains a greater variety of really beautiful flowers than any place of the same size which I have ever visited. The *Menyanthes trifoliata*, Bog Bean, here flourishes in all its luxuriance; and beneath it the pretty pink *Anagallis tenella*, Bog Pimpernel. In another part of the Fen grew the *Parnassia palustris*, with its delicately white petals; and there also the common Cotton Grass waved its silky flowers. The gorgeous Marsh Marigold and sweet blue Forget-me-not ran riot amongst the reeds and rushes. The pretty little *Scotia spiralis* with its twisted spike, from which comes its name of Lady's Tresses, I gathered here for the first time, and also the Marsh Helleborine. Ragged Robin and Willow Herbs, striving and pushing their way through this mass of vegetation, assert their claims to a conspicuous place. The only plant which would not verify this description was the dwarf Red Rattle. Always stunted, and looking like a badly nursed child, this plant arouses somewhat of a feeling of sympathy in our hearts for its apparently neglected condition. Speaking of the Heath beyond the pond, I must not forget to mention the discovery of a very slender plant with a round stem and one spike at the top. I never found another root of the same, though I frequently returned to the spot. I believe it was the *Scirpus Savii*, Savis' Club Rush. It was the most slender and smallest Rush I have yet met with.

The thick mist which gathered so quickly over the Fen in the evening sent me homewards much sooner than I otherwise should have returned; and I own it was with something of the saddened tone of feeling with which one quits a dear friend that I took leave of my favourite haunt. The last train has whistled past, this last noisy sign of a bustling troublous world without has died away in the distance, and now I would fain remain here with the newly risen moon and the quiet shadows for my companions. The evening star is shining above the pool, and the Lilies gently stir with love as they turn their meek eyes upwards in answer to the starlight from above. And now the elves,

"Who slept in buds the day,  
And many a nymph who wreathes her brows with Sedge,  
And sheds the freshening dew; and lovelier still,  
The pensive Pleasures sweet,  
Prepare Eve's shadowy car."

The children who have been playing at a distance on the heath, like the wearied birds have sought their beds. A little under-song of settling warblers, and the solemn creak of the toad close by, are all the sounds which come to me as I take a parting look before I cross the style.

Farewell, Scarning Fen! Your treasures I leave for other and more able botanists to search out and to possess. As I look back, it is strange to think that I have dabbled amongst the Sundew in goloshes and a waterproof, the rain falling so slowly, so miserably, and so small! It sounds very absurd, no doubt, but so it was. Perhaps just then my heart was "cold, and dark, and dreary;" and is it not better to arouse oneself to some study in which you delight than to sit with your hands before you brooding over some trouble at home? At least, this is my peculiar theory. Again, I remember days which I have spent on the Fen, when the sun was burning, no air stirred, and the leaves of the pretty Butterwort were shrivelled and yellow. My heart was light enough then, and as cheery and glad as a fainting flower after the summer shower. The only remark which I remember hearing about the Fen was from a neighbour, who casually mentioned that "some gentleman had been from London to botanise in the Fen, that he had made as much fuss about it as I had, that he had found a very rare plant there which he prized very much." My informant believed the flower of it was green, and that it came in the month of September: however, of this latter fact he seemed uncertain. Often and often I hunted for the said "green flower," but ineffectually. Perhaps as we left East Dereham about the end of August we thereby lost the acquisition of some very rare addition to our hortus siccus. I feel that my account of this small spot has not done it justice, but I must now leave it for a stroll in quite a different part of England—namely, North Staffordshire. But before I quit Norfolk entirely I must just down a fact with regard to the *Scelopendrium vulgare*: in no other locality have I seen the Hart's-tongue so fine as on the banks at Gressenhall, Scarning, and Hoe. They are quite a contrast to the meagre specimens I have met with in Staffordshire.—ALICE.

LARGE HIBISCUS.—Perhaps you may be able to afford space to chronicle the fact that at Wharf Bridge, Winchester, there is now in full bloom (a mass of rich rose tints), a fine, and



I believe in England unequalled, specimen of an Hibiscus, the trunk of which cannot be less than 8 inches in diameter. I have often observed the finest solitary specimens of rare plants in places where they might be least expected—amongst the cottages and gardens of the poor.—L. A.

### EATABLE FUNGI.

Your correspondent "WASON" (page 88), is quite right as to the esculent qualities of many of our Fungi. I had the pleasure of Dr. Badham's acquaintance, and many dishes of the various Fungi from his table have I tasted. It is vain to try to uproot prejudice, especially where there "is poison in the pot;" but those who love a *bonne bouche* should purchase a work on the subject, and try for themselves. I would especially recommend to notice the Puff-ball—when the interior is perfectly white, stewed or fried, it is food fit for the gods; when the centre has a greenish hue it disagrees—only then. It would be worth "WASON's" while to write to the Rev. — Berney, Bracon Ashe, near Norwich, who sought information from me about three years ago, as he had commenced growing the various edible Fungi. He invited me the following year to go and see his progress, but other duties or laziness prevented. I do not know what success he met with, but fear that the excessive dryness of the past two seasons may have disheartened him. Dr. Badham was much pleased in consequence of my succeeding in preserving many specimens, some in Goadly's solutions, some in turps. I made an exquisite sauce of Chain-pignons with sherry, if I remember rightly, and a quantity of catsup from *Agaricus rubescens*.—J. FISON, Barningham, Suffolk.

### THE MODERN PEACH-PRUNER.—No. 14.

#### THE PREMATURE LATERAL.

As some of the most successful growers have devoted considerable attention to the proper treatment of this summer lateral (*anticipé* of the French), it would be improper here to pass it over; and, indeed, it constitutes a certain basis in very close or in-door pruning whereon to establish much after-work. In the open air it is also important, as helping much to keep the fruit nearer to the wall, and closer to the main branch when properly treated. The premature lateral springs directly from the wood of the year whenever that wood is of a certain strength. The gross shoot (class 4), with these summer laterals springing from it, has been already depicted. As an extension of a young and healthy tree it frequently attains a considerable size, and, provided due attention could be given to directing and controlling its growth, we should be glad to see it; but the laterals which spring from it, when so placed as to receive a great volume of ascending sap, are apt to be troublesome to manage. The *bourgeon anticipé* is naïvely called by M. Grin "the enemy of gardeners, and is either of a good or of an evil nature." In the first case it is known by the principal leaf being considerably longer and broader than the others. This is when it is quite young and manageable, for it very soon becomes vigorous, and is then easily recognised by its erect habit and darker colour.

During the months of June and July, especially after a favourable May, the growth of the Peach is considerable. The trees require constant attention and regulation of the summer shoots, for upon the exact performance of this depends the future appearance of the tree; but the growth of summer laterals, when placed on the upper side of the extension, is such that it is not easy to regulate it. The consequence of a neglect is, that the strong flow of sap will develop these laterals so fast as to carry away the first pair of well-formed leaves to a distance of 2 or 3 inches from the base in a very short time. This is evidently a defect, and if it should occur in many places must cause the loss of valuable space, and also of radiation of heat. On the other hand, to arrest unskilfully the growth of these laterals in a young and vigorous tree must check its progress and injure it. In the case of an established tree, to remove too great a portion of the laterals on the under side of an extension may end in their drying up entirely by the end of the season.

It requires, therefore, both experience and attention to transform these laterals into close-lying, and, at the same time, vigorous spurs for future bearing and growth. The general habit of the tree operated on must also be carefully considered. Some sorts of Peaches and Nectarines are naturally of weak

growth, and such should not be severely treated, but be allowed more freedom of growth, and to become well established before bearing regularly. Indeed the skill and attention required to manage successfully these laterals are such that Professor Dubreuil says, "This is the only portion of M. Grin's method which really presents any difficulty."

The object which we have in view is to avoid a blank space of more than an inch between the first pair of full-sized leaves (which have the bearing-buds with them), and the base of the lateral, for the reasons before stated. Passing over other expedients to check the growth of a too-vigorous lateral on the upper side of an extension, M. Grin's method may be recommended here. It consists in the suppression of one-third of the two small leaves which spring immediately from the base of the larger leaf. In fig. 15 these small leaves are marked A,

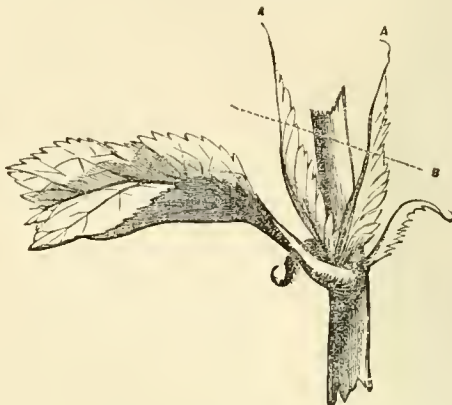


Fig. 15.

and the line of suppression is shown by B. This operation is considered to be always successful provided—and here is the only difficulty—it be done at the proper moment. This is known by the relative sizes of the leaves as seen in the engraving. There is no doubt that in the case of an orchard-house cordon, which is more easy to watch, the sudden arresting of the sap will produce two or more buds, which will constitute a good basis for next year's work.

Should, however, the lateral have made its growth unchecked, and have carried off in its progress the leaves and buds to a distance of several inches, we may be induced to try Professor Gressent's remedy, which he highly recommends, for it is easy to perform, and the defect in our tree is conspicuous. The object in this instance is to cause the production of a cluster-shoot or spur ("May cluster"), at the base of the offending lateral. He proceeds in the following manner. By means of a sharp-pointed instrument or lancet he pierces the base of the already-developed lateral and the dormant bud near it, so as to produce a deviation of the vessels of the medullary canal, without, however, injuring the ligneous formation. The vessels being cut, a temporary concentration of the cambium is induced; a mass of cellular tissue results, and ends in the production of a group of flower-buds. By the next spring this group is well constituted, and the lateral may then be suppressed, leaving in its stead a group of buds as delineated in fig. 5.

In fig. 16, A represents the point of section; B, is the me-

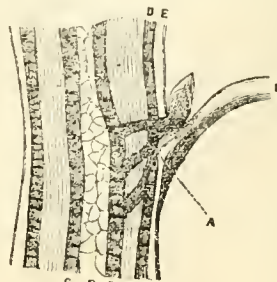


Fig. 16

dullary canal, composed of the primitive cellular tissue enclosed within the wall-like formation of the vascular tissue, c, c;

n is the inner epidermis of the green shoot, through which the cambium descends; and e is the thin outer epidermis not yet become hard. The ligneous formation is seen between v and c; and f represents the blank portion of the premature lateral.

The method here described may be tried with advantage in certain cases, care being taken not to pierce beyond the point indicated.

I have thus endeavoured to point out how to recognise the character of a lateral which seems likely to become gross, and shown when and how to arrest its progress. In the next instance a remedy has been pointed out in the case of a lateral having been neglected or overlooked. It remains, then, only to describe the treatment of such laterals as are of fair growth and promise. In the case of maiden or young trees it is good practice not to check their growth, but only to direct it a little. We shall, however, suppose the tree to be somewhat established and formed. In this case the laterals on the summer extensions may be stopped to 6 inches to strengthen the buds at the base, of which, at the winter pruning, there will be left only two good buds. When these have pushed in the following year, in order to induce them to be fruitful, they should be stopped at four leaves as soon as they have made six full-sized ones. The second growths may be stopped at two leaves more, and the third growth may be stopped at one leaf, or allowed to extend during the autumn, according to the state of the buds at the base. If all go well, by August we may confidently expect to find the lowest two buds full and well established. Possibly another pair besides these may be developed nearer to the base of the lateral. The two upper buds will have extended, and on these the second and third growths will have been already stopped respectively at two leaves, and one leaf, as before said.

It is my practice in this case to allow the tree to make some more growth, unless the autumn be wet and sunless; if, however, the two lowest buds of the lateral are not satisfactory, then but very little second growth is permitted, and frequently it is good practice to cut back below the first stopping, and by a new check and concentration of the sap and diminution of the shade produced by the leaves, to endeavour to ripen these lowest buds.

Some of the finest fruit is produced in the ensuing season on the extensions. When, however, the tree bears freely, the laterals should be rather devoted to form new spurs for future use, and, if possible, they should be transformed into a group of two or three shoots.

In the case of very old trees no rules can be given, as these require less severe pruning, and vary considerably.

In fig. 17, we have a premature lateral drawn by myself from

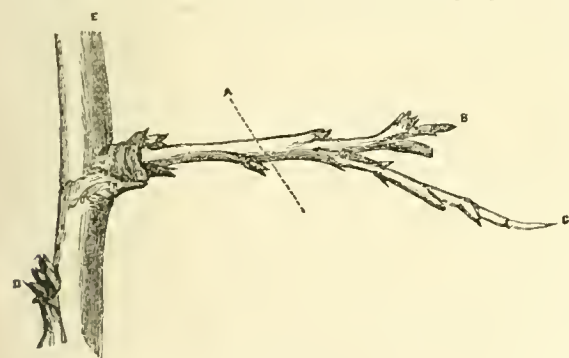


Fig. 17.

nature early in August. The leaves are omitted. We notice the pair of buds at the very base of this lateral; they are prominent, dark in colour, and triple, which is not always the case. The lateral had been stopped at the fourth leaf, when it had made some six full-sized leaves, and two of these four buds have extended. That marked b has been stopped at the second growth, and has formed at that point a group of flower-buds which would ripen in an orchard-house; the other bud, marked c, has also extended, but it has not produced flower-buds. It would have grown freely, and so has been stopped at about two leaves beyond the first stopping, and, again, for the third time at one leaf; still it is growing, and it is no matter, for our lower buds are well constituted. The tree suffered also from insects, and will benefit by more growth during the rest of the autumn. Probably M. Grin would cut back, at the winter pruning, to the first pair of buds at the base; but I have found it well to

have plenty of shoots to select from. I should, therefore, cut back only to a, above the beautiful triple group there. This group having a central leaf-bud will be sure to extend. Should any fruit appear on this group it might be left on, if so desired, and the leaves beyond the fruit reduced to two or three. The pair of buds at the base may become "May clusters" by this process, which, indeed, is the principal aim of very close pruning. Nothing can be more successful than the production of this class of shoot, especially in pairs. Should, however, these buds at the base extend, they will very likely become fruit-bearers of class 2. As soon as the group at a has borne its fruit, it should be completely cut out. By this time the eyes at the base will have become strong, and will be ready to take the place, in some shape or other, of the group removed. At b, we see a group of buds on the other side of the extension, e. This group will be of service hereafter, probably as a May cluster.

The lateral represented is a fair specimen. Others more striking could as easily have been shown; some which by stopping have forked and become double shoots, which can be left as such, and others equally useful. Of course, the double shoot is nearer perfection provided it divide very near the base. In M. Grin's practice he does not, however, attach so much importance to having more than one shoot from the same base, but it multiplies the chance of fruit, especially in the open air. —T. BRÉHAUT, *Richmond House, Guernsey.*

## CLOTH OF GOLD AND MRS. POLLOCK GERANIUMS.

MANAGEMENT OF AMARANTHUS MELANCHOLICUS RUBER.

WITH me for the last four years Cloth of Gold has put all other golden varieties into the shade. It both grows and flowers well. This year I have two large beds of it, with a ground-covering of *Verbena venosa*, struck from root-cuttings in January last. This I find a better plan than planting out seedlings, as the plants so propagated come into flower much sooner. The soil in the beds is a sort of chalky loam, and a little manure is annually given, but no peat. The beds are exposed to wind on all sides but the north. Cloth of Gold requires plenty of water when first planted out, especially in such dry weather as that which prevailed in the early part of the present season. Some plants used as edgings have not done so well; this I consider is owing to shallow soil and want of moisture. Golden Chain does very well with me as an edging plant, but is useless for the centre of a bed on account of its poor flower, while Cloth of Gold has a good bright scarlet flower, combined with a larger and better coloured leaf than the former.

*Amaranthus melancholicus ruber* has grown with me as strongly as *Perilla*. I sow in heat at the end of March, and as soon as the seedlings are large enough to handle, I prick them out into small pots, and when these are pretty well filled with roots turn the plants out in a cold frame, in a mixture of leaf soil and ashes. Afterwards I keep close for a time until they start into growth and then give all the air possible. I think the main cause of failure at some places with this and many of our bedding plants, is keeping them in small pots until planting-out time comes, then many of them grow less. I plant out some thousands of bedding plants every year, and find that nearly all of them are benefited, if they are well rooted, by being turned out of the pots into leaf or any soil out of which they can be well lifted. With *Verbenas* I find coal ashes answer well.

I can highly recommend turf pots for spring-struck Geraniums, but spring-struck *Verbenas*, *Variegated Alyssum*, *Ageratums*, *Heliotropes*, *Gazanias*, and *Petunias*, grow quite as well, if not better, tied up in soil and moss, and placed in a little heat until they start into growth; when they may be shifted where you like. It is the way to grow a great quantity.

*Centaurea ragusina* has turned green with me this year and keeps running to seed. *Calceolaria Sparkler* does not keep its bright colour with me, it turns a dirty brown after being out a few days. —BAILEY WADDS, *Raywell, Brough.*

As Mr. Fish asks for a report of the above Geraniums, I may state that I have a bed edged with the former, which has always been a favourite of mine, and it does not seem to have grown at all this year. Last year in another bed it grew well, and was everything I could desire as an edging. I have come to



the conclusion that Golden Fleece is the best of that class. It is a good grower, and the foliage is of a bright good colour.

Mrs. Pellock has grown remarkably well with me. I treat it as follows:—At bedding-out time I pot the plants in good rich loam, with a liberal dash of good rotten manure in it, in 32-sized pots, without any crocks in them. I plunge the pots in the beds, placing about half a foot in depth of the same soil the plants have been potted in for them to rest on. The effect of this is that the roots come through the bottoms of the pots, and the plants grow as well as if they were in the bed without pots, and in October I can take them up without the risk of losing them. Considering the high price this *Geranium* still commands in the market this is of great consequence to me. I possess *Lady Cullum*, and consider it a great acquisition to our list of bedding *Geraniums*.—*CALCRIA*.

### BEARD'S PATENT HOTHOUSES.

THESE houses possess structural and cultural merits of the highest order. The most obvious of their structural merits are strength, elegance, simplicity, completeness, non-conductibility, elasticity, and durability. Their framework being formed entirely of iron, strength and elegance are easily combined. Their simplicity consists in the fewness of their parts, the ease with which they can be handled, put up, taken down, and removed from place to place. Thus the trouble, delay, and expense of hothouse building are entirely avoided. They are so complete in themselves that there are no extras; ventilating apparatus, water-troughing, &c., either form part of the houses or are sent with them in perfect working order. What in ordinary houses forms the roof plate, becomes also the water-troughing in these. The roof terminates in rather than on this gutter, so that it removes the condensed water from the inside of the glass as well as the external rain. The upright pillars that support the front are all hollow tubes and perform the office of water pipes as well. The bottom plate may either stand on a wall, or on wood, or even on a level surface of gravel. Either way the houses are complete without any addition beyond the ground line. If it is desired to raise them higher, of course they can be placed upon walls in the usual way. Another great merit of these houses is their non-conductibility. Iron is a rapid conductor of heat and cold. The extreme of either is a great practical evil in hothouses. Mr. Beard's mode of glazing breaks the conductive power of the iron. He accomplishes this by placing two layers of asphalt, or other elastic non-conducting material on the top of every sash-bar, one above and one below the glass. An iron banding is then bolted down over the whole to fix the glass in its place. One of these copper or lead bolts is inserted at each point where four panes meet, the corners of the glass being cut off to make room for it. Each sash-bar or rib, when finished, thus consists of an iron banding, a layer of asphalt, a thickness of glass, another layer of asphalt resting on the main bar below. This ingenious arrangement breaks the currents of heat or cold, prevents them from passing through, provides an elastic packing for the glass, and earns for the houses the character of non-conducting.

But these houses are also elastic—not quite like sponge or Indianrubber, but they give and take in a similar manner, if not to the same extent. The bulk of all substances is changed by the addition or subtraction of heat. Not only so, but every substance changes in a different ratio. Wood, putty, iron, glass—for instance, would all change in a different degree when subjected to the same amount of cold. The neglect of this fact has caused the most serious consequences in hothouses. The evil has not been so obvious in glass houses with wood frames, as wood is a sluggish conductor; but in iron-framed glass houses the breakage of glass from the operation of this natural law has been enormous. The usual mode of glazing is to fix the glass tightly between two iron sash-bars, with putty that speedily becomes almost as hard as either the glass or iron. On a frosty night the cold contracts the iron much more rapidly than it does either the glass or putty, and crack! crack! go the squares, like the report of small firearms all over the house. Mr. Beard's mode of fixing the glass prevents all this. He leaves a space of, say the eighth of an inch, between each two squares as they lay side by side on the top of his level sash-bars. Every square is also completely isolated from the iron above and below, by the intervention of the slip of asphalt. The removal of the corners from the squares of glass, also prevents the bolts that tie them in from touching them. The squares

also meet each other end to end, and are not lapped. Consequently when the iron suddenly contracts, the square moves, and this elasticity, slight though it be, prevents the possibility of breakage.

Perhaps the greatest structural merit of these houses is their durability. Inside and out they present an unbroken surface of iron and glass to the atmosphere. There is positively nothing perishable about them but the slips of asphalt, and they, protected as they are at most points by the iron or glass, will probably last thirty years or more. Besides, they are easily and speedily replaced by new slips. By the use of galvanised, enamelled, or japanned iron, and the new mode of fixing the glass, those incessant sources of worry and expense, putty and paint, are entirely got rid of. The great error of most builders has been that they have mixed substances of the most varied degrees of durability together in one and the same structure. Wood, iron, putty, paint, brick, and stone, have all been used to form one house. The time such houses could stand without expensive repairs, must be measured by the durability of their most perishable parts. They involve an expense of 3*d.* or 4*d.* per foot every third or fourth year, and would cost their original worth in repairs in a period varying from fifteen to thirty years, according to their quality. During the same period the only part of Mr. Beard's houses that could possibly need renewing, would be the asphalt, which in a house like that erected in the Botanic Gardens, might be done for less than £1. The enamelling or japanning process looks as hard as the iron itself, and is likely to prove almost as durable. Some objection has been made to galvanised iron. It is thought by some that this grand antidote to corrosion injures the texture and lessens the durability of the metal. I believe these views are mistaken, and that such iron is good for two or three lives at least, and we need not trouble to go beyond that. Neither does Mr. Beard confine himself to galvanised iron; he lays his enamel on common iron, and this, with the glass, which completes his houses, surely lasts long enough for all human purposes. The greatest possible durability, without repair, is a leading characteristic and a chief merit of these patent houses.—*D. T. FISH, Gardener to Lady Cullum, Hardwick.*—(*Bury Free Post.*)

### REMARKS ON SOME SPECIES OF CONIFERÆ.

REGARDING *Pinus insignis*, how much it is to be regretted that so few plants of this beautiful tree now remain in this country. Our limited experience once led us to believe that its constitution was such as to resist uninjured the frost of our severest winters, but in this we have been greatly disappointed. The evidence produced during 1860 and 1861 has completely annihilated any hope that it will ever become a permanent tree in Britain. During these severe winters we had the misfortune to lose seventy-five plants, varying in height from 5 to 30 feet. Neither the situation nor the quality of the soil afforded any protection, although both were subject to considerable variations. Our largest tree still survives, but is only a mere fragment of what it once was; nor will it ever again acquire the same proportion, as the constitution has been so severely shattered. At the time to which I refer, it was 43 feet high, growing on the blue lias formation, and faultless in form, branched closely to the ground. In our parks and pleasure grounds we shall long miss the warm green colour and open graceful habit of this *Pinus*, as there is none possessing the same characteristics. The nearest approximation with which I am acquainted is *Pinus muricata*, quite as hardy as the Austrian Pine; the foliage, however, is a little lighter in colour, and the habit a little more rigid, still at the distance of 10 or 12 yards the difference is hardly perceptible.

Authorities differ greatly as to the hardihood of *Pinus Hartwegii*, and to some extent there may be space for these broad views, as we know what a large latitude different soils and situations afford for the production of dissimilar conclusions. The opinion usually entertained passes it off as being far too tender for our climate; this I am not prepared to endorse, as we have had it growing here for a good many years, and have not found it suffer in any way.

Our plant is growing among brashy sandstone, on a high situation fully exposed to every breeze. In a young state this is undoubtedly a handsome Pine, its long dark green foliage drooping gracefully. The young shoots are thickly covered with leaves, but after a few years they fall off, leaving a naked stem, the very reverse of ornamental.

Some botanical authorities, without the least scruple, classify



*Cupressus macrocarpa* and *Cupressus Lambertiana* as the same, while others again maintain that they are distinct species. I do not believe the difference is so great as to separate them thus widely, and this may account for the fact that nurserymen supply the one for the other. Setting aside conflicting statements, we are quite correct in saying that they are distinct varieties, and in no point more observable than in the difference of habit. *Macrocarpa* invariably preserves a close-growing spiral outline, while, on the contrary, *Lambertiana*, even as a seedling, pushes out its branches at right angles, and with age the habit becomes more set. But there is something more than this; the latter passed through the winter of 1860 and 1861 without being damaged in any way, while several plants of the former, above 20 feet high, were completely killed, quite irrespective of shelter or exposure—hence it is irrefutable that the constitution of the one is more resistible than the other. We may then, I think, legitimately infer at least, that they are distinct varieties.

We have the *Araucaria imbricata* growing on two formations—the mountain limestone and the red sandstone. On the former it does not refuse to grow, still the rate of growth is far from being so satisfactory as on the latter. In different parts of the park the *Araucaria* is planted in quantities, and invariably the same result follows. Our largest tree was planted in 1839, and is now 33 feet high, bearing cones on the south side. Age does not in the least diminish its progress, as it is now as vigorous as when I made its acquaintance thirteen years ago. No *Araucaria* can possibly possess greater symmetry of outline; the branches are evenly and closely arranged from the summit to the base, the lower tier is creeping so closely on the ground as to require protection against being covered with soil. Why it is so I know not, yet the fact is indisputable, fully tested during the winter of 1860 and 1861, that in a group of *Araucarias* planted in the same soil, and equal as to drainage, some were severely injured, others completely killed, while not a few escaped without any damage. Nor was the destroying agent confined to this situation, it passed over to other places, conducting its operations much in the same way. Now it is somewhat remarkable that plants of the same species, possibly seedlings of the same tree, and reared under the same treatment, should differ so greatly in resistive power. I believe the difference to be unexplainable, vegetable physiology refuses to answer the question—the subject is just as subtle as the doctrine of metaphysics. Conjectures innumerable might be offered, but they can be of no real value.

The *Wellingtonia gigantea* has beyond all cavil established for itself a position and reputation for hardihood; more than this too, it is the most ornamental Conifer ever brought from California. What renders it so much more acceptable, arises from the fact that it does not refuse to grow in any kind of soil, so long as it does not contain an excess of water, nor does it object to a dry situation. Our largest specimen was planted eleven years ago, and it is now 18 feet high, densely covered from the apex to the base with healthy foliage; the lower branches sweep the ground, and measure 14 feet in diameter. It is somewhat singular that it should grow so vigorously, as the depth of soil does not exceed 15 inches, overlying the mountain limestone, but no doubt the roots are creeping down between the crevices of the rock, secure against sudden and continued drought, such as we experienced last summer. We have also the *Wellingtonia* growing on the red sandstone quite as freely. Some years ago we planted a young seedling in a deep and rather tenuous loam on the border of a marsh, where the soil is rather wet than otherwise, which is, unquestionably, the most appropriate situation, as it will ere long leave the others far behind, judging by present progress.

*Torreya myristica* has proved to be quite hardy with us, having passed through our severest winters without the slightest injury. Being so distinct from the generality of Coniferous plants, it is found to be no inconsiderable acquisition. The rate of growth is by no means rapid, so it will be a good number of years before we can expect to have even a moderate-sized tree. On the Sierra Nevada mountains it does not exceed 40 feet in height, so there is but little hope of it ever growing to half that height in this country. The long peculiarly-formed leaves of a yellowish green colour give it an interesting appearance. *Torreya grandis* will not submit to a British climate; in the truest sense it is a greenhouse plant, where it is not worthy of the space. We had it planted in the open air for three years, and I do no wrong in saying that it did not, during that time, grow more than an inch, although every possible care was taken as regards soil and situation.

*Pseudolarix Kämpferi* has withstood the frost of our severest winters, and may therefore be catalogued as quite hardy; but its dwarf bushy habit will, I fear, prevent it growing larger than a good-sized shrub; still in China it is said to attain the height of 100 feet. This dense low form is greatly to be regretted, nor have I been able to produce a free centre by keeping all contending side branches constantly shortened. Could we by some means cause it to produce an active leader, it would be a great acquisition, as no tree with which I am acquainted offers such a display of golden-coloured leaves during autumn.—(A. CHAM, *Tortworth Court, in Scottish Gardener.*)

## THE ROMANCE OF THE VEGETABLE KINGDOM.

No very limited field of literature this, and if I, an old gleaner in the field, were to throw down my sheaf before you, many Journals would appear, each with a handful of the gleanings before the entire were gathered up. The "Book of Books," the mythology and the poetry of the Greeks and Romans, the tales of the Persians and Arabs, the Hindoos, the Chinese, nay, the American Indians, have all episodes and narratives in which flowers and trees occupy a conspicuous position. I could buzz about and among these flowers like an old "dum-dore," and add many a modern instance, such as "The Rose in January," that tale in the old "London Magazine," in Tom Hood's time, a tale that fascinated me in youth, and fascinates me now, for the frost though on my hair has not got to my heart. Then there was the *Fuchsia* of her "boy Ben," found in the old woman's window in Wapping; and the *Mignonette* in the Saxon coat of arms; and that lovely "*Picciola*, or the Prison Plant;" and the *Planta genista* of the Plantagenets; and the *Roses* of York and Lancaster. Put on the cockle-shell, take up your staff, and see how many years would pass before you could visit the Gospel Oaks, and other historic and romance-associated trees in our own land. Pass on to Germany, France, and Italy, and life must be protracted to a length equal to that of the wandering Jew before you could exhaust the legend-lore and historic events associated with members of the vegetable world.

I named Italy last, and from that land, to which God, not man, has been so bounteous, my last gleanings were collected.

The *Jasmine* was introduced from India into Europe early in the sixteenth century, and a duke of Tuscany was one of its first possessors. He was so jealously fearful lest others should enjoy what he alone wished to possess, that strict injunctions were given to his gardener not to part with a slip, not so much as a single flower, to any person. To this command the gardener would have been faithful, but for a fair but portionless peasant, whose want of a dowry and his own poverty kept them from becoming husband and wife. On the birthday of her he loved, the gardener presented her with a nosegay, and to render that nosegay more acceptable, he added to it a blossomed spray of the *Jasmine*. The "povera figlia," wishing to preserve the bloom of this "new flower," put it into the earth, and the spray remained green all the year. In the following spring it grew. It flourished and multiplied so much that the bride elect was able to amass a little fortune from the sale of the precious gift which love had made her. With a sprig of *Jasmine* in her breast, she gave her hand and wealth to the happy gardener of her heart. This may be only a legend, but it is certain that the Tuscan girls to this time preserve the remembrance of this event by invariably wearing a nosegay of *Jasmine* on their wedding-day, and they have a proverb which says a young girl wearing this nosegay is rich enough to make the fortune of a good husband.—G.

## NEW ZEALAND.

A BOTANICAL RAMBLE IN HOON HAY AND OTHER BUSHES.

GEOLOGISTS tell us that the body of the earth was once in a state of fusion—that is, it was once all in a melted state, glowing, burning, flaming, and that it gradually cooled until it became covered with a hardened surface. These bushes, in the convulsions of nature, seem to have been tossed up into all sorts of forms, and are now clothed with noble trees of the forest; some appearing in full view, others half-concealed behind the rocks and crags, and others with their rounded heads appearing above the summit of one range, as if they were



clumps of shrubs seated on the slopes of the more distant mountains. Such extent of ground as there is in these places; such variety in the disposition of it; objects of vegetation so interesting in themselves and ennobled by their situation; each contrasted to each; every one distinct, and all seemingly happily united; the scenery so beautiful, of a whole so great—compose altogether a landscape of some magnificence, and of great beauty, which it would be well for our landscape gardeners to try and imitate. These were my thoughts when looking around and entering a New Zealand Bush for the first time.

The indigenous timber, at any rate, at first sight appears to be grown to a towering height, and in a perfection, I think I may say, equalled by that of few other countries. Vegetation runs riot. Perpetual verdure and freshness is to be seen all the year round, which is very different to plantations and forests in the old country, which become deciduous one part of the year. No fall of the leaf, but varied and beautiful scenery. By-the-by, where nature has done the planting, it would be very difficult to find any straight lines or trees in rows.

If our bushes contained any prickly plants like our briars and brambles at home, or the prickly *Melocactus* of Mexico, they would be a jungle physically impenetrable; and even as it is, they present many obstacles to free steps and movements. Here we experience "Supple-jack" snares; and travelling inside is a very slow process, not without two or three falls at most. Such is the closeness of growth, the luxuriance of foliage, that sun and air, in some places, can scarce penetrate. The birds seem to enjoy your company, for in whatever way you wend your steps they follow, and warble melodious notes. In addition to this, see the stumps of cylindrical boles of trees which have been left after the havoc of the axe, some of them measuring 20 to 30 feet in circumference, which once reared their majestic heads in grandeur.

As I have already mentioned Supple-jack, I may state that whoever undertakes a ramble in the bush will find that the first plant to be met with is the one which I will now say a little about. It is a species of *Smilax* of enormous size. I found it both in flower and fruit; flowers white, and hanging in racemes, afterwards followed by red berries, which hang waving in the air. It is a gigantic climber, and most troublesome because most abundant. Its stems are amazingly strong and tough, and well known among us by the name of Supple-jack. There is another *Smilax*, which accompanies this, twining itself round the trees, which I will name *S. aspera*, or Rough Bind-weed. I am glad to see two indigenous plants amongst us, belonging to the natural order of *Sarsaparillas*.

*Dacrydium cupressinum*.—This beautiful tree seems to love to grow in the shade. Its branches are more spreading, and begin at a less height from the ground, than those of the other New Zealand Pines. Its foliage is remarkably graceful and elegant. The leaves are only like small needles, and very thick on the shoots, and their united weight causes the branches to hang like the Weeping Willow. Its beauty is heightened by the liveliness of the colour and denseness of foliage, in comparison with the sombre hue of most of the other evergreens in the bush. It is in every respect in character like *Wellingtonia gigantea*, and its head in shape like an umbrella.

It will be as well here to state the difference between our New Zealand Pine trees and coniferous trees belonging to other parts of the world. Our Pines here are separated by their fruits not being collected in cones, each growing singly, unprotected by hardened scales; and nothing can equal the elegant appearance of their fruit, especially the fruit of the *Podocarp*, of which, when fully ripe, the drupes are carmine-coloured.

In the natural order *Taxads*, to which our Pine trees belong, there are only nine genera, and two of them are indigenous to the Cape of Good Hope. Out of these nine genera only fifty distinct species have been discovered as yet.

Man is, however, the most active agent in the dispersion of plants, and we must not overlook the important consequences. Sometimes, indeed, the causes are accidental, but more frequently intentional, as we have witnessed of late during the last two or three years in the numberless accessions to our gardens of coniferous plants from other countries.

I fear that the timber trees in New Zealand are by no means so abundant as to justify our regarding the supply inexhaustible, for I am sure it must be incredible the quantity of trees which fall beneath the axe at the present time.

*Cabbage Tree*.—A more appropriate name would be Dragon Tree. From a dry fruit which I found and examined, it was very clear to me that it belonged to the natural order *Liliworts*. It attains a great height in the bush, more so than in a solitary

state on the plains. The beautiful creations which constitute the order of *Lilies* would seem to be well-known to all the world, for what have been so long admired and universally cultivated as they? Nevertheless, in my opinion, there are few great groups of plants which have been more neglected by the exact botanist, or which stand more in need of his patient attention. Even *Phormium*, our celebrated Flax, with its perennial leaves and panicles of flowers, belongs to this interesting natural order. For a certainty, our familiar Cabbage Tree, all over the plains, belongs to the genus *Dracæna*.

*Edwardsia microphylla*.—I notice very fine trees of this, towering up much higher than the rest. The thousands of small pinnated leaves and wiry twigs contrast beautifully with the surrounding evergreens. Here it does not become deciduous, as in the old country. Stems equal in circumference any of the other large Pine trees. It belongs to the natural order *Fabaceæ*, or leguminous plants. The Locust Trees of the west belong to this order, and have long been celebrated for their gigantic stature; and other species are the colossi of South American forests. Martens represents a scene in Brazil where some trees of this kind occurred of such enormous dimensions that fifteen Indians, with outstretched arms, could only just embrace one of them. At the bottom they were 84 feet in circumference, and 60 feet where the bole became cylindrical. The tree mentioned is supposed to be older than the era of our Saviour. By counting the concentric rings of such parts as were accessible, he arrived at this conclusion.

*Fuchsia excorticata*.—better known by the name of Native Fuchsia. This tree, for so it must be called, seems to shed its leaves; but still I could perceive a great number of leaves pushing forth, which looked as if when one leaf drops another comes. The tree I saw had three forked strong limbs, and spreading branches in proportion. The bole was 5 or 6 feet in circumference, and the three limbs were about 20 or 30 feet high. It was not in flower or fruit. There is a great difference between this dwarf monarch of the forest, as I will term it, and the little pets grown in pots by florists. One can hardly judge which state of growth is to be liked better—a *Fuchsia* plant in a pot, or a *Fuchsia* tree in a state of wildness in the bush. This wild species of *Fuchsia* is more of a botanical curiosity at home than anything else, and is grown in collections for that purpose.—WILLIAM SWALE, *Arboreta Botanica Garden*.—(Lytleton Times).

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

Give all possible encouragement to advancing crops by stirring the surface of the soil, and earthing-up such as require it, and keep a sharp look-out for seed weeds of every description in order to remove them before shedding their seed: care in this respect will save much weeding and hoeing next season. *Basil*, to be cut and dried just as it is coming into flower. *Carrots*, make a sowing for early spring use on a light, dry piece of ground that is only moderately rich. *Cauliflowers*, if seed was not sown last week, it should now be done, and another sowing should also be made in about a week; in favourable situations the latter sowing will be quite early enough, no advantage being gained by having the plants very forward before winter. *Celery*, plant some of the last sowing for spring use. As it will not be necessary to earth it up, the plants may be a foot apart. *Cucumbers*, if seed was not sown for plants for house-culture through the winter, cuttings should be immediately put in to produce plants for that purpose; those in frames and on ridges will now require attention in regulating the shoots, so that sun and air may be admitted to them. *Endive*, make a last sowing for spring use; continue to transplant from former sowings when the weather is favourable. *Lettuce*, if the sowing of the various sorts to stand the winter was made during the past week, another good sowing should be made in the end of the present one; the former will do for transplanting in the autumn, and the latter will remain in the seed-bed to be transplanted in the spring. *Mushrooms*, prepare the materials for making up beds next month. Clear out the old beds, and limewash the walls of the house to destroy insects, and give the whole a clean appearance. *Onions*, sow seed of Spanish, Tripoli, or Strasburgh to stand the winter. The Welsh may also be sown for drawing in the spring; the other sorts are best transplanted in spring for bulbing. *Spinach*, the winter crop should now be sown, if not yet done. Sow a small quantity of Cabbage Lettuce with the Spinach.

## FRUIT GARDEN.

Crevice formed between the soil and walls are the favourite lodgments of numerous insects, therefore, at this season, the soil adjoining walls should be frequently disturbed. A shallow trench may be taken out all along, and as this is being proceeded with, the soil adhering to the bricks should be removed with a hard broom. The portion of the wall thus exposed should then be sprinkled with lime water, which should be applied the instant it is made. Remove all superfluous shoots from wall trees, and expose the fruit of Peaches and Nectarines, but this must not be done by cutting off the foliage. If the leaves are in any case overcrowded, the fault is owing to the laying in of the shoots, and the remedy must consist in the proper regulation of these. Place dry bean-stalks, cut in lengths of about 6 inches, among the branches, and by this means most of the earwigs may be caught before the Peaches become ripe. The soft pithy lining of the bean-stalk is preferred by these insects to the finest-polished tuber. Apples and Pears require constant attention now, gather the various sorts as they ripen, and let the operation be performed with gentleness, for wherever an Apple or Pear is bruised it lays the foundation of premature decay. Peaches and Nectarines must be looked over daily, and gathered as they ripen, as a fall, even when nets are suspended to receive them, is fatal to the flavour and appearance if they have to be kept a day. The extreme humidity of the weather has in many instances operated unfavourably on wall fruit; Apricots, particularly, have suffered. Rotten fruit should not be allowed to remain on the trees, or the branches in contact with the affected fruit will be injured.

## FLOWER GARDEN.

The heavy rains and boisterous winds have caused considerable derangement among the flowers. Immediate attention should be given and all deficiencies from such injuries replaced. Look over rock plants, pruning back any that are overgrowing more choice kinds, in order to give them sufficient time to break again before autumn. Cuttings of choice kinds should now be put in for planting out in spring. Keep such plants cut back as have a tendency to overgrow Box and other edgings. Some of the earliest Carnation and Picotee layers will now be sufficiently rooted to take from the parent plant, they may be put in four-inch pots, placing them in a frame for a few days, taking care only to water the soil, not over the foliage. Continue to plant out Pinks as they strike root, bearing in mind that those which are put out now in the place where they are to flower next season, generally lace much better than those planted in the spring.

## GREENHOUSE AND CONSERVATORY.

Large specimens which have been placed out of doors to provide room for other things will soon require housing. This, however, will depend greatly on the weather. The earthworm is a greater enemy to pot plants in general than low temperature, every precaution must be taken to avoid injury from this cause. Many Orchids maturing their growth will now be showing signs of ripeness in the leaf and plump pseudo-bulbs, and may be removed forthwith from the excitement of the growing-house. Any situation where a temperature averaging from 60° to 65° by night and day can be guaranteed will suit them well, a very moderate amount of atmospheric moisture will suffice. Look well after late-flowering plants. Late Heliotropes, Scarlet Geraniums, Petunias, &c., will now be somewhat pot-bound, and will in that state, with the application of weak liquid manure, produce abundance of bloom on a light shelf until the beginning of December. Lachenalias should be repotted, and Persian Cyclamens if planted out will now be fine bushy plants full of young leaves. They should be taken up forthwith with all the soil possible adhering to them, potted carefully, and placed in a close frame or propagating-house with a very moderate atmospheric temperature, a bottom heat of 55° would be an advantage. After three weeks of this treatment they may be introduced to the greenhouse, where they will produce blossoms in abundance from November until April. When Camellias, Chinese Azaleas, and hybrid Indian Rhododendrons were not potted in spring and require shifting, the present is the most favourable time, as the young wood is now becoming somewhat firm and the flower-buds are perceptible. As plants of this class require water to be very liberally supplied during one period of their growth, drain the pots well and use very turfy peat and sand, adding an equal portion of loam for the Camellias.

## STOVE.

The absence of bright sunlight will render it more especially

desirable to expose all plants to the little sunshine we have in order that the shoots may be ripened before the approach of winter. More air should also be admitted to these plants, as their preservation in a perfect state depends in a great measure upon the thorough maturation of the young wood. It is an error to keep plants that are required to produce a profusion of bloom during the following spring and summer actively at work late in the autumn. Summer is the season when rapid development should be promoted, and autumn the period when the young wood should be completely hardened and ripened preparatory to the approach of winter.

## PITS AND FRAMES.

Some of the first-struck cuttings will now be fit for potting off. Place them in a pit or frame, shade and keep them close until they are established in the pots, when they should be set out to harden previous to being stored up for the winter. Continue to put in cuttings, more particularly the best kinds of bedding Geraniums, which ought to be struck as soon as possible.—W. KEANE.

## DOINGS OF THE LAST WEEK.

## KITCHEN GARDEN.

MUCH the same as in the previous week. Sowed Brown Bath and Hardy Hammersmith Lettuce to stand the winter. Where there is the convenience of a two-light frame, it is as well to sow under that next month; the sowing, if the weather prove severe, will come in for planting out early in spring. The rains have brought up little weeds very thickly where none were seen before; and it is of little use to hoe until the ground is drier. Where the soil is rather open, the quickest process is to turn them in by a shallow spit, and they will help to manure the ground. Took up the remainder of Shallots, Garlic, and a portion of the Onion crop, where the necks were quite ripe, and the bulbs good.

## FRUIT GARDEN.

Proceeded with potting later successions of *Strawberries*, and cutting those laid in pots from the parent plants. As often stated, the principal points with potted *Strawberries* are to keep the bud well up, and to pot very tightly, ramming the soil with a rounded stick, or spatula, according as there is more or less room for soil. We like the soil to be fresh loam, rather stiff if we can obtain it, and mixed with about one-sixth part of sweet rotten dung, generally hotbed dung, of which tree leaves formed the principal part. If we had old, sweet, dried cowdung we should prefer it. Generally a little soot is sprinkled at the bottom of the pot, which helps to keep the worms out; no plants in pots will thrive with worms in the pot, as they soon clog up and disarrange the drainage. We have not yet been able to finish planting *Strawberries* in the open air, nor yet to clear those that are left of runners, &c.; but the sooner that is done the better for the plants, as admitting more light and air among the crowns and buds. From two to three years is generally the time we allow a plantation to remain; but we have kept them in full bearing for many years, by freely thinning out all the smaller buds and shoots from an old plantation, and giving a surface-stirring and a good rich surface-mulching. On ground naturally dry, or made so by draining, this plan does well with those who have only a small garden, and entertain something like a horror of the idea of making a fresh bed, and waiting until the second season for a full crop. There is no necessity for thus waiting if the runners are laid in pots, as if for forcing, or if the earliest runners are taken off, and pricked out into a bed of rich material, placing them 5 or 6 inches apart, so that they can be raised with nice compact balls, and turned out into well-prepared ground early in the autumn. By either plan a good crop is secured the first succeeding summer. The ground, if loamy, should be well trenched and manured, the surface pointed over afterwards, a little very rotten dung pointed in, and the plants turned out in rows, allowing 1 foot to 18 inches in the row, and 2 feet from row to row. If the soil is light and sandy, fully more dung should be used, and the ground should be well trodden before and after planting. Cracking may be prevented by slightly mulching the ground. *Strawberries* will succeed very well even on light ground if thus firmly trodden when damp, and a little mulching afterwards given. Of course stiff soils will become firm enough of themselves.

Apricots are ripening unkindly, owing to the quantity of wet and little sunshine, and many are showing signs of decay.



ing on one side before they are soft on the other. It is so far good that the heavy crops will render a few thus going of less importance. If the rains thus do a little injury to fruit and some of the most forward corn that cannot be garnered into store-house or stack-yard, they have produced wonders in the pastures, which may, in some measure, counteract the results of the cattle disease.

Looked over vineries, removing a few laterals, and any berry that showed signs of damping, and put fires on in the dampest days, giving plenty of air, especially at the top of the house. Melons, owing to the heat, have come in more together than we should have liked.

#### ORNAMENTAL DEPARTMENT.

**Lawns.**—Went on mowing, sweeping, and rolling. The rains have greatly increased work, by rendering the scythe more necessary, with all its attendant sweepings, &c. The grass grew so fast that we could not overtake it at all with the machines. The men like the machine much the better, and there is no comparison as to the labour; for the sweeping is so troublesome. To save this as much as possible, and thus gain time for other work, we are allowing parts of the lawn, more out of sight, to grow longer than usual, so as to give one mowing instead of two or three, as, though the weight to be removed is greater, the sweeping is just the same. Such rather longer grass, mixed with litter, is valuable for hotbeds, for packing round hotbeds as linings, or for placing in the rubbish heap, and covering with earth, as the refuse from potting-benches, &c. It thus gives a rich manuring-power to all such heaps. Tossed merely on the top, and allowed there to ferment, and ultimately shrivel and dry up, its good properties go to render impure the surrounding air. Some allow part of the lawn to grow so long as, when cut, the grass is useful for cattle. Such part then ceases to have the peculiar attractions of a lawn even as to sight. It may be as long as we have stated above, and yet look well to the eye, if all coloured weeds, as Plantains, &c., are swept down with the daisy-knife. In many places, where the lawns have originally been too large for the labour power to keep them nice, it is the best plan to select the most prominent portions near the house, and the like, and keep them first-rate, and merely mow the other parts when convenient. If the scenery in the latter case is wilder, the contrast will even be pleasing; and in pinetums, &c., we often think the longer and rougher grass is an attraction rather than otherwise. In such a case the grass might well pay for the cutting. Sure we are, however, that part of a lawn thus kept first-rate, and another part less conspicuous not in such first-rate order, will always be more satisfactory than a large lawn, none of which often looks quite satisfactory, from an ineffectual attempt to keep the whole well. Of course there is no objection—quite the reverse—to the having large lawns, and all well kept, if there is sufficient labour power to do it all; but if there is only labour to keep an acre nice, no screwing or managing, with the same help, will ever keep three acres equally well, though two of them might look different from the surrounding park. We wish to impress the truth—not so much on our great landed gentry as on our enthusiastic amateurs, who do so value their lawns—that these lawns, to be well kept, are the most expensive parts of a garden. True, the mowing machines have greatly reduced that cost; but still, running over lawns in general seasons twice a week, or once every four days, is not done for nothing. That will be cheaper than mowing once a fortnight. In such dripping weather as we have lately had, mowing once in ten days will never secure the conditions of a well-kept lawn, though it may please the owner; and, if that is the case, no one else has any right to interfere. It is just such little matters as these that make all the difference between places well kept and those that are merely passable: hence, when proprietors ask us what labour power should be necessary for such and such circumstances, we generally advise them to note how the men work, and act accordingly. It is true, system and careful management can do wonders, but the best system will not treble labour power.

Just as an instance of what people consider good keeping: this season our lawn has been praised by many; to us it is but passable, and just now we could employ a dozen pair of hands in weeding that alone for a month. A thoroughly good lawn ought not to have a Daisy or a Plantain, either of the round or long-leaved kind, in it. As to Daisies, we should feel the case almost hopeless, and we do not mind them so much, as they form a thick carpet with the grass. At this season the flowers do not show, and earlier in summer we can soon

send myriads of them out of sight with repeated strokes of the daisy-knife, but the Plantains are a complete annoyance; they will raise their flowering heads, and then the round-leaved kinds form so many large rough cushions on a velvet lawn, and nothing but taking them up by the roots will free you of them. Cutting the top off is of no use whatever, they will throw up as many heads as the fabled hydra, and if you allow them to seed you will have no want of progeny. After these rains would be a good time to take them up by the roots, sow the large space that the leaves cover with Dutch Clover and Bents, and roll all over nicely. We have seen several prongs for the purpose, but the great point is to take up with every bit of root, and if a pinch of salt is placed in the hole it will be all the better. The *Plantago lanceolata* is equally difficult to extirpate, but then its "rib-grass"-like leaves blend, like the Daisy, more with the grass, and do not form such unsightly cushions as the *Plantago* major. We would like to see the whole lot of them out of every lawn. Some time ago we noticed Tingarth Gardens in these pages. We have not seen it for some years, but the lawn there was about the finest we have ever seen. It is nearly thirty years since we first saw it, and Mr. Phillips, the gardener then, was having it rolled early in the morning to throw down the dew to enable the ladies to walk on it dry-shod, and we never can forget his offering half a crown for every weed above 2 inches in height that could be picked up anywhere. We did not then see a single Plantain on the lawn. Mr. Phillips, who is now to us one of our pleasant memories, with his characteristic noble-mindedness, told us, "Mind, it is no credit to me; my employer freely gave the means, and I merely employ them." There are few truly weedless lawns. The pulling out of prominent weeds, say some friends, is surely a very little matter; and so it would be but for other myriads of little matters demanding attention.

Here we may just instance one more reason why gardeners should be sure as well as diligent. A young gardener, not long in a place, has written to us asking our sympathy and help in what he considers bad usage. He had next to lost his place because he allowed the under-gardeners to give, for a certain consideration, some long-mown grass to a cowkeeper. Our only sympathy would be given in the old maxim, "What is worth the having is worth the asking for." When a gentleman meets with a good honest gardener, we believe it will be as well that such matters are left to his management, as he will be anxious enough to receive a *quid pro quo*; but, on the other hand, no gardener who values his character, would risk doing anything in an underhand way, even to oblige his labourers or under-gardeners. Right is right, all the world over, and everything about the garden and the pleasure grounds is as much the property of the proprietor as the money in his purse, and the plate in the strong room. Without his sanction or approval nothing about the place, be it as seemingly insignificant as the short grass from a lawn, ought to become the subject of barter or exchange. The gardener who in such matters trusts to use and previous custom, trusts himself on very slippery ground. The straightforward and open are best in the end. In other words, thorough honesty is ever the best policy. Instances are known to us in which certain privileges have been so abused, that it was deemed the better way to allow no privileges whatever. Even waste vegetables were taken to the piggeries, &c., because the taking of them by the men became a source of annoyance and abuse. Though anxious that nothing that is fit for food should be lost, there may be circumstances in which it may be proper even to consign that to the manure heap. However we may approve of employers granting privileges to their workmen, as a general rule, we think it is best for every one when all workmen are suitably paid at once for their labour, and are not partly paid by contingent privileges. We can easily fancy how even the disposing of short grass by men would cause much annoyance and disappointment; at any rate no gardener ought to permit such a thing for a moment, without the knowledge and the sanction of the employer. We advise our correspondent to make an apology and be more strict for the future. Every man may do with his own as he likes, provided his doing so does not interfere with the advantage or the morals of others; but no man has a right to do with his master's property except as that master may approve. Gardeners are often put to great straits in these matters. There are many applications made to them which they could not meet without a previous understanding as to the powers at their disposal. In such cases a man must be safe to be sure.

In potting, shifting, hardening, &c., see previous weeks. We shall now say a few words on *propagating bedding plants*, in answer to several remonstrances as to our overlooking simple matters of detail. These have been so often given that we deemed such next to unnecessary. Several friends kindly say they do not wish to be referred to some far-back article, but to be told how we are doing now, and that perhaps, will be best.

Our propagating has hitherto chiefly been confined to *Verbenas*, *Lobelias*, dwarf *Ageratum*s, and the more tender variegated *Geranium*s, as we wish cuttings and plants that will stand in little room all the winter. For most of these we select four, five, and six-inch pots. The pots are filled to about a quarter of their height with drainage. The first crock is placed with its convex side downwards, so as to prevent worms entering, the other drainage is placed in an open manner over it, the smallest drainage being at the top. Through this the water percolates freely, and escapes, though nothing, unless it be very small and slimy, can get in. On the top of the drainage is placed either a slight sprinkling of moss, or of the roughest riddlings of compost, and in the first, and generally in both cases, a slight sprinkling of soot is placed over this bottom. The pots are then filled to within an inch of the top with soil that has been passed through a half-inch or three-quarter-inch sieve, consisting of four parts loam, one of leaf mould, and one of rough drift-sand, such as may be picked up by the sides of a highway after a heavy rain, the sand consisting of a mixture of soil and ground flints. If the soil is dry, these matters are pressed down, and then watered, and allowed to stand a day for use. If somewhat damp nothing in the way of watering is required; but the mixture is pressed down so as to be moderately firm, and some quarter of an inch of fine road-drift or other sand—silver sand is the best—is placed on the top ready for the cuttings to be dibbled in.

Now, suppose we take cuttings of *Verbenas*. We have no notion of having a barrowload from the beds brought in to the shed to select cuttings from, to the danger of hurting the appearance of the bed, and the as great danger of puzzling the cutting-maker as to whence he shall select his cuttings from the mass of branches. Cuttings cannot be taken without selection, and as a general rule we wish the selection to be made on the growing plants instead of in the shed. For this purpose small shoots, side shoots generally they are called, are selected, and these are slipped off with a sharp knife close to the main stem, and if not more than 2 or 3 inches in length, we like them all the better. These are more robust and more likely to make stiff stubby plants than mere points of long shoots. These are generally taken off and placed in flower-pots or little baskets, so that there shall be no danger of flagging, it being one of our rules that no cutting at any time should have the chance of flagging if we can prevent its doing so. Let beginners ever bear in mind, that though a cutting may revive after flagging, yet that the time it requires to do so is just so much time lost as to its becoming a plant on its own account. We, of course, except some succulents full of sap, which are often the better of a little drying, though even in their case they would often strike root sooner when no such drying was resorted to. With *Verbenas*, *Lobelias*, *Petunias*, &c., it is always best when there is no flagging. Now, here comes a matter of importance. *Verbenas* seem as yet quite clean this season, and so we have not done much to insure their cleanliness, but if we have a month of dry weather, thrips, &c., will be almost sure to assail them. It is a good plan, therefore, if thrips or fly be suspected, to draw all these little cuttings through weak tobacco water, or quassia and soft-soap water, as recommended by Mr. Rivers. The simple way of doing this is not without its importance. The small slipped-off pieces may be washed through the water and laid out on the board to soak and dry, or the cuttings may be made first by cutting off the lower leaves, cutting straight through at a joint, and shortening the other leaves a little; and then, holding some dozen or score by the bottom ends, swing the cuttings through the prepared water, and lay them down before inserting them. The object in either case is the same—to wash all the parts of the cutting in the mixture, except the lower end, which is held in the hand. We have long since proved that certain mixtures, as the above, will kill all insects on a leaf, joint, &c.; but similar mixtures absorbed by the root, or the end of a shoot, become prejudicial to the health of that shoot, cutting, or plant. The only care necessary is, that little or none of such liquid should be absorbed by the cutting. Some things are hardy enough to resist even this, but it is well to work on the safe

side, as even the filling of these pots involves considerable time and labour.

The cuttings, being thus prepared, may be inserted, in two rows, round or all across the pot, giving them from a half to 1 inch each, be fairly watered with a rose, and the water allowed to settle, the sand clinging to the base of the cutting, and preventing air entering to rob it of its moisture there. The next consideration is the position for the cuttings; anywhere under glass will do, or even under calico or paper, where you can maintain a rather close atmosphere, and prevent, by moisture in that atmosphere, and shading from bright sun, the tiny little bits being scorched or withered up. Nothing is better than a cold frame or pit, which can be shaded and kept close in sunshine, and a little air given at all other times, when the cuttings will bear it without flinching. Every bit of shade more than the cutting needs to prevent it flagging, is just so far an inducement for it to elongate itself upwards, and therefore to weaken it, instead of inducing it to throw roots downwards, and thus secure robustness by correlative action between the buds and roots. Sun that scorches and withers, or flags, is either to be kept out, or neutralised by moisture and syringing. Provided the cuttings can be made to hold their heads erect, the less shade they have from the sun the more quickly will they root, and the more healthy will the young cuttings be. The cuttings will give less trouble still if they are placed in the cold pit or frame, some 15 or 18 inches from the glass, as at that distance they will need but little shade, and that in the hottest part of the day. In one word, place pots of cuttings of *Verbenas* in such a position now, for all artificial heat will be injurious to them; if on rough coal cinders all the better. Keep the lights close for twenty-four hours, which will secure a damp atmosphere, and force the cuttings to absorb as much as they perspire. After the second night give about half an inch of air, by raising thus much the top of the sash of the frame; shut close down about 8 A.M. If the sun is strong and clear, give a dewing from the syringe about ten, as soon as the cuttings show the least sign of flagging; repeat, if necessary, again; and if that is not sufficient give a little shade for two or three hours, but no shade at all if the plants will do without it; and remove the shade as soon as the force of the sun is past. Give air again at night; shut up during the day, until the roots are formed; then give more air night and day, by degrees, and expose the plants ultimately to sun and air, to harden them off; and either keep in the pots, or pot off, according to your system of management. We generally keep ours as store pots, for cuttings next season. Some pot them off singly; in the latter case they should be established in the pots before winter. The chief point is to use as little forcing as possible, and to keep them as hardy as possible before winter. For summer planting we prefer spring propagating, but then, by some means, we must have the plants to propagate from. We may say the same of the blue *Lobelias*, *Petunias*, &c.; but if you manage *Verbenas*, you will have no trouble with other bedding plants. To beginners we would say again, Recollect what has been stated about the shading; give as little as possible, and, when given, do not let it remain on all the afternoon and evening. We have seen a mat put on for shade, but, ten to one, it remained on to six o'clock, seven, or later, when it was cloudy after 1 p.m., and that made the cuttings weak and drawn.—R. F.

#### COVENT GARDEN MARKET.—AUGUST 19.

SUPPLIES continue very heavy; and the demand at this season being far from brisk, the market would be completely glutted were it not for the large quantities of fruit and vegetables required by the northern towns. Good dessert Apples chiefly consist of *Kerry Pippin*, *Nonesuch*, and *Red Astrachan*; and Pears of *Jargonelle*, *Williams's Bon Chrétien*, *Lammans*, and other common sorts. Peaches and Nectarines from open walls are very plentiful but small.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	1 0 to 2 0	Melons.....	each	2 0 to 5 0
Apricots.....	doz.	1 0 3 0	Mulberries....	punnet	0 6 1 0
Cherries.....	lb.	0 6 1 6	Nectarines.....	doz.	1 6 6 0
Chestnuts.....	bush.	0 0 0 0	Oranges.....	100	0 20 0
Currants, Red ½ sieve	3 6 5 0		Peaches.....	doz.	4 0 8 0
Black.....	do.	4 6 6 0	Pears (kitchen)	doz.	0 0 0 0
Figs.....	doz.	1 0 2 0	dessert.....	doz.	1 0 2 0
Filberts.....	lb.	0 9 1 0	Pine Apples.....	lb.	3 0 6 0
Cobs.....	do.	0 0 0 0	Plums.....	½ sieve	2 6 4 0
Gooseberries. ¼ sieve	0 0 0 0		Quinces.....	½ sieve	0 0 0 0
Grapes, Hambro.....	lb.	1 6 4 0	Raspberries.....	lb.	0 6 0 0
Muscats.....	lb.	3 0 6 0	Strawberries.....	lb.	0 0 0 0
Lemons.....	100	8 0 14 0	Walnuts.....	bush	14 0 20 0



## VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	esch	0	4	0	6	Leeks.....	bunch	0	3	0	6
Asparagus.....	bundle	0	0	0	0	Lettuce.....	per score	0	9	1	6
Beans Broad.....	bushel	0	0	0	0	Mushrooms.....	pottle	2	6	4	0
Kidney.....	do	3	0	5	0	Must.d. & Cress, punnet	0	2	0	0	0
Beet, Red.....	doz.	2	0	3	0	Onions.....	doz. bunches	8	0	0	0
Broccoli.....	bundle	0	0	0	0	pickling.....	quart	0	6	0	8
Brus. Sprouts.....	½ sieve	0	0	0	0	Parsley.....	½ sieve	1	0	1	6
Cabbage.....	doz.	0	9	1	6	Parsnips.....	doz.	1	0	2	0
Capiscums.....	100	2	0	3	0	Peas.....	quart	0	9	1	6
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	0	3	0
Cauliflower.....	doz.	3	0	6	0	Kidney.....	do	3	0	4	0
Celery.....	bundle	2	0	3	0	Radishes doz. bunches	0	6	1	0	0
Cucumbers.....	each	0	4	0	8	Rhubarb.....	bundle	0	0	0	0
pickling.....	doz.	2	0	4	0	Savoy.....	doz.	0	0	0	0
Endive.....	score	2	0	3	0	Sea-kale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	0	Spinach.....	bushel	3	0	4	0
Garlic and Shallots, lb.	0	8	0	0	0	Tomatoes.....	doz.	2	0	3	0
Herbs.....	bunch	0	3	0	0	Turnips.....	bunch	0	4	0	6
Horseradish.....	bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0	0

## TO CORRESPONDENTS.

\*. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

VINES IN POTS (*C. T. Culver*).—The "Vine Manual," published at our office, and the pages of this Journal, will supply you with the information which you require. Mr. Whittle's address is Bush Hall, Hatfield, Herts.

SEEDLING PETUNIAS (*C. C. Malton*).—Your seedling Petunias are very pretty, the white ground pure, and the stripes distinct. If they are free from the usual fault of most striped varieties, which is that of losing the stripes, and becoming selfs, they will be very valuable. It is not likely that they will remain true to their present condition; we do not know of any variety that can be depended upon.

DRAINING AND RAISING A BORDER (*Calcearia*).—After you have dug out the soil to the required depth, make a proper drain in the bottom. On this place the brick rubbish, cinders, or any other rubbish you may have. You may cut the soil straight down in front of the Ivy, leaving 18 inches or 2 feet next the wall. After you have made your drain secure, put the soil back again. In doing this shake some light rubbly stuff, such as small lime rubbish, in about the stems of the Ivy. The plants will not sustain any injury if their stems are covered up 2 feet or more with any porous substance, if there is plenty of drainage below, so that the water may pass away quickly from their roots.

FRUIT-ROOM SHELVES—LANCASHIRE GOOSEBERRIES (*Rector, Kent*).—We should decidedly give the preference to the open spars, as they permit a better circulation of air about the fruit, and for the same reason, and to prevent the spread of mould, we would use no straw. Mr. Charles Leicester, of Crompton Road, Macclesfield, Cheshire, can supply the Lancashire prize Gooseberries true.

SCARLET RUNNERS NOT SETTING (*W. B.*).—Rapid growth, rain, and cold nights are most likely the cause. The bees, we think, would promote rather than hinder fertilisation.

BEDDING GERANIUM (*A Subscriber*).—We do not recollect of any one that meets your requirements as to shade, &c. Rubens has some of the properties you want, but the shade is very different, and the habit more vigorous.

FLOWER-GARDEN PLAN (*S. B.*).—We think your plan and planting for a simple, regular group will answer very well. If you put *Centaurea* round the dial it will give you more variety. We prefer the *Cineraria* for the centre or edging of beds, rather than filling beds chiefly with it. We think, also, it contrasts better with purple and scarlet, as Purple King Verbenas, and Scarlet Geranium, than with blue Lobelia.

FAIRY RINGS ON LAWNS (*A Subscriber*).—Water the rings copiously with lime water made by placing 14 lbs. of fresh lime in a hoghead or tub, pour over it 40 gallons of water and stir well up. Allow the whole to stand for two or three days, and then water with the clear liquid; if when the ground is dry so much the better. Two or three thorough soakings at intervals of four or five days will generally be sufficient to destroy the mycelium of the fungus. The whole lawn we should think poor, and would be much improved by a dressing of well-rotted manure in autumn or early in spring.

EJECTION (*A. E.*).—No one without being informed upon what terms you took your house can any whether you can be ejected after a month's notice; but if you are discharged from the landlord's service as gardener, you cannot be so unwise, we hope, as to wish to retain possession of the house required for your successor.

EMIGRATION (*A Young Gardener*).—We readily insert all the communications we receive from our colonies, or elsewhere, if they give information at all relative to gardening. If we intended to seek for employment as a gardener away from our native land we should go to some of the older of our settlements, such as Tasmania or New Zealand.

PROPAGATING *CINERARIA MARITIMA*, *CENTAUREA*, AND *CERASTIUM* (*C. P. P.*).—Take up the best of the old plants of *Cineraria maritima*, and winter them in a dry cool greenhouse, and the *Centaureas* in like manner. In February place them in a house with a temperature of from 50° to 60° to make new growth, and when this is a few inches long take off the shoots of the *Cineraria* with two joints and the growing-point, cutting transversely below the lowest joint; remove the two lowest leaves, and the cutting is ready for insertion in pans half full of two-thirds sandy loam and one-third well-ried leaf mould, then fill to the rim with silver sand. The *Centaurea* cuttings are to be taken off close to the stem of the plant with a short heel, the side leaves neatly trimmed off to the extent of an inch or two, leaving the growing-point with its leaves untouched. Insert these like the *Cineraria* cuttings with their bases just resting on the soil, the dibber taking a little sand down with it if it penetrates beyond the thickness of the sand. Put them in so as not to touch each other to any great extent. Water lightly to settle the sand about the cuttings, and place in a bottom heat of 75°, and a top heat of from 65° to 75°, with a close moist atmosphere and alight shade from very bright sun; water sparingly, still keeping just moist, but by no means wet, otherwise the cuttings will damp off. In a fortnight or three weeks they will be well rooted, and may be removed to a cooler house, and when a little hardened potted off. The old plants if continued in heat will afford three or more lots of cuttings for striking in the same manner as the first, all making good plants for planting out in the first week in June. Cuttings of *Cineraria maritima* and *Centaurea* taken at this time of year root with much less certainty than in spring, but will strike in a mild hotbed. For this purpose take the growing shoots of the *Cineraria* with the base of the cuttings a little hardened, and the side shoots of the *Centaurea* with a short heel. *Cerastium* will strike from March up to September in an open border, taking off shoots 3 inches or so in length, and dibbling them in in lines 3 inches apart in sandy soil, and to about half the length of the cuttings. We put our cuttings in in April where we wish to have an edging, line, or band of it, taking the cuttings off with a knife by the hundred, and without trimming insert them half way in the soil at 3 inches apart in double lines, and all they further need is a good watering should the weather prove dry. These are what we prefer for lines a foot wide to look well by July; but for panel work we prefer small divisions of the roots at 6 inches apart in single lines for a width of 1 foot, but double and treble lines in quincunx arrangement for wider hands or lines. *Cerastium tomentosum* does very well in this way, but *C. Biebersteinii* does not make a line so soon nor so good if the cuttings are inserted where they are to remain, and divisions of the root are better. These if put in during April or May will make a splendid line by the end of June. Cuttings of *Biebersteinii* strike less freely than these of *C. tomentosum*, but take a longer time to form as good an edging. Cuttings of both strike freely in light soil in a gentle heat, as well as in the open ground or in a frame.

CALCEOLARIA LEAVES TURNING YELLOW (*G. A.*).—The usual cause of the leaves of the herbaceous kinds turning yellow is a warm, close, and dry atmosphere, and the evil sometimes arises from defective drainage, or using very rich decomposing vegetable soil, which destroys the roots. Keeping the plants dry and warm during winter is a common cause; they should be kept as cool as possible, merely excluding frost. When their blooming pots become filled with roots weak applications of liquid manure will assist in keeping the foliage healthy up to the time of blooming; and a cool, moist, airy, and light situation at all times will also promote the same result.

SOILING MIMULUS MACULOSUS (*Idem*).—Plants from seed sown now will bloom next June. When the seedlings are large enough to handle they should be potted off into small pots, and be placed on shelves near the glass in a cool airy greenhouse from which frost is excluded, using a compost of turfy loam two-thirds, and one-third leaf mould, with a little sand intermixed. They may remain in the small pots until March when they should be shifted into larger pots, and as soon as these are filled with roots shift again, and so on until in the size in which you wish them to bloom. They like moisture when growing, and require the same treatment as *Calceolarias*. If for bedding stop them in April, and harden off in a frame for planting out in May.

DESTROYING COCKROACHES (*J. M. W.*).—A hedgehog kept in the greenhouse will make quick work of all that come within his reach. They may be trapped by placing a basin half full of water sweetened with a teaspoonful or two of honey, on the floor at night, with a few sticks half an inch or so wide resting on the edges of the basin for the beetles to walk upon. These tumble into the liquid and are drowned. The basin may be sunk to the rim in soil, and is then an excellent trap. Arsenic mixed in the proportion of one-fourth with boiled Potatoes, and laid on pieces of paper at night, will certainly kill all that partake of it, and to prevent dogs touching it invert over each paper a box or piece of wood so as to allow of the beetles entering, a heavy weight being placed upon the box. Arsenic and honey in equal parts if laid on scraps of paper at night will also destroy the beetles. Phosphoric paste spread on thin slices of bread is as good a poison as any, and not so dangerous as arsenic, which should never be used where it can be avoided.

FERNS EATEN BY INSECTS (*J. K.*).—Most likely snails or slugs eat your Fern fronds. You may ascertain whether this is the case or not by looking out for them after dark with a lantern. If fresh Cabbage leaves are laid down at night, and examined in the morning, the snails or slugs will be found beneath them and may then be destroyed.

ASPHALTING A WOODEN VINERY (*W. S. W.*).—We say decidedly that painting the boards so shrunk with gas tar would be injurious to every thing inside, unless you previously filled all the shrunk parts. When the joints from shrinking are some way apart, a good plan is to fasten along the joints slips of wood, say half-inch and 2 inches wide and bevelled at the sides, which keep all secure whilst the shrinking goes on as it may. This might dispense with your proposed plan of covering the outside of the boards as you propose with asphalt roofing. If you do use the asphalt you might tar that outside, and whilst wet throw on as much awdust or road dirt as it would take in. This will also cause it to dry sooner, and it will make it more lasting. No air should be given in front until the smell has gone off. We have met with several instances in which bulbs and tubers will retain their vitality and grow, though kept out of the ground, and at rest for twelve months. There are some tubers, such as *Tropaeolum*, very singular in this respect. They will rest sometimes for a year or two, and then grow strongly.



**PROPAGATING PHLOX DRUMMONDI (T. C. H.).**—Save the seed from the finest flowers. They will give a large per-centage of flowers equal to the parents, and many we doubt not superior to them, though they may not be of the same colour. Cuttings of the growing parts put in now will strike root freely in gentle heat, and may be potted off when rooted into small pots, and grown in an airy part of the greenhouse in every way the same as *Petunias*. Cuttings may be taken in spring from the plants struck in autumn, and they make good plants for bedding out, and we were in the habit of growing *Phlox* Criterion for bedding out, and we treated it like the *Petunia*; but it gradually wore out, and for this reason we strongly advise you to save seed from your present strain, and from none but extra fine flowers, propagating by cutting when the colours are required separately and with certainty. Plant in beds of rich soil, otherwise the bloom will not be good.

**SHELTERING A GARDEN (A Subscriber).**—With so small a garden we should think a wall 8 or 10 feet high would be sufficient protection. Trees shade so much ground and occupy so much with their roots, that room cannot well be afforded them in a small garden. Poplars would grow the fastest, and the Lombardy Poplar would take up the least room. Next to that the Black Italian and Ontario are rapid growers, and would do better in strong soil than the Lombardy, though they all like moisture. The White or Abele Poplar is worthless for shelter, and equally so is the Aspen. Poplars are the worst of trees to be near a garden, their roots run so far and so near the surface. Beech is the best; and you may cut it into a hedge, and thus prevent the tops overshadowing or the roots extending too far. The growth, however, is much slower than that of Poplars; but Beech or Hornbeam, which will bear any amount of cutting, is to be preferred to Poplars.

**SUPPLYING A FOUNTAIN CONTINUOUSLY WITH THE SAME WATER (H. J. R.).**—There are miniature fountains a good deal on this principle, but they are chiefly toys, and would not be of any use for a fountain in a garden. For such we know of no plan by which you can use the same water over again, except collecting it in a tank or reservoir, and then pumping it up

into a reservoir sufficiently elevated, from which it should again flow to the fountain. The toy fountains are made on the principle of those of Iloro, of Alexandria, two air-tight vessels being connected by tubes, and the upper vessel filled with water; and water pouring down through a tube into the lower vessel so compresses the air that the water in the upper vessel is thrown up through the jet; this continuing only so long as the water in the vessel lasts, and the pressure is kept up. For practical purposes, we know of no plan better than the force pump, however that may be applied.

**NAMES OF INSECTS (G. S.).**—We cannot undertake to name entomological specimens, except when they directly relate to gardening. (Y. Z.).—The insects are slimy grubs, *Scandaria* athiopis, and are killed by dusting with lime. (A. M. K.).—The caterpillars are those of the Goat Moth (*Cossus ligniperda*), which are very destructive to trees, attacking even those which are hard-wooded as the Elm and Oak, but preferring fruit trees and those with softer wood. Thrusting a wire into their holes would probably kill them, and the French have used chloroform with a like object.

**NAMES OF FRUIT (A Subscriber).**—The Apple is Korry Pippin. Plums—1, Nectarine; 2, not known; 3, Gibborne's; 4, Pound's Seedling; 5, Standard of England.

**NAMES OF PLANTS (J. M.).**—The globular fungus is *Sclerotinia vulgare*, common in woods, and of no value as an article of food; the other, an *Agaric*, but not in a state fit for determination. (*Alpha, Acton*).—1, *Nephrolepis tuberosa*; 2, *Pteris hastata macrophylla*. The Oak Fern is *Polypodium dryopteris*; the Parsley Fern *Allosorus crispus*. (*Inquirer*).—The *Caladium* is *Caladium bicolor*; the *Begonia*, *B. frigida*? You can obtain No. 187 from our office by sending your address and four postage stamps. (*G. B. B.*).—It is impossible to name plants with certainty from mere leaves. (*A. J. T.*).—1, *Veratrum nigrum*; 2, *Eschscholtzia californica*; 3, *Tradescantia virginica*; 4, *Calendula officinalis*; 5, *Gentiana asclepiadea*; 6, *Veronica spicata*, var.; 7, *Veronica spicata*. (*Old Subscriber*).—One is *Polystichum proliferum*, the other *Athyrium Filix-femina*.

### METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 19th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 13	29.826	29.757	72	49	62	61	S.W.	.06	Fine; flying clouds; rain at night.
Mon. . . 14	29.759	29.691	73	49	64	62	S.	.16	Showery; cloudy and showery; fine; rain.
Tues. . . 15	29.759	29.501	67	51	64	62	S.W.	.04	Rain; cloudy; showery throughout.
Wed. . . 16	29.727	29.640	70	48	64	63	S.	.02	Clear and fine; showery; fine at night.
Thurs. . 17	29.798	29.730	71	50	64	61½	S.	.08	Cloudy; showery; rather boisterous.
Fri. . . 18	29.879	29.773	72	39	63	61½	S.W.	.04	Cloudy and windy; very fine; showers; cold at night.
Sat. . . 19	29.908	29.858	73	45	63	62	S.W.	.00	Very fine throughout; clear at night.
Mean..	29.808	29.707	71.14	47.28	63.43	61.85	....	0.40	

### POULTRY, BEE, and HOUSEHOLD CHRONICLE.

#### WITHHOLDING PRIZES.

As the approach of autumn, and the growth of chickens, and the receipt of schedules remind us of the season of shows, amateurs look at their stocks before they make entries, and ask themselves where they shall send, and what their chances will be of success. There are two classes of exhibitors. The first, and oldest class, sought and seeks to breed and exhibit only the very best and most perfect birds of the sort admired; the second seeks to take the first prize under any circumstances. Our best birds and most reliable information are derived from the first. Those who form it are chiefly men of education, leisure, means, and intelligence. Possessing these advantages it is not surprising that they should excel; yet, with these means and appliances to boot, they constantly need the help of the second to procure the fresh blood necessary for keeping their strain in the first rank. We recently had a letter from a correspondent who has bought a bird for this purpose, advertised as a first-prizetaker on three occasions. The bird is in many respects faulty, but has one fault that should disqualify him anywhere—of course he is worthless. Inquiry proved the truth that he had taken the first prize as represented. When the defects and disqualification were pointed out, the answer was a truthful and ready one—"he was not a very good bird, but he was the best bird in his class." So long as schedules offer prizes for the three best pens of birds shown in such a class, first, second and third prizes, and committees tell judges not to withhold prizes because it discourages exhibitors, so long will these anomalies exist; but if judges are desired to recollect that they may withhold prizes from pens that do not deserve them, it will induce a far better state of things. Cheap success, where it is not intended as an advertisement, is appraised at its proper value, and undeserved honour is lightly esteemed. "Showing, in many cases," said a good exhibitor to us, "has become an absurdity—I sent a faulty pen for sale, and it took first

prize." So far from being encouraged by it he is annoyed, and says at present he shall give it up.

We all know how difficult it is to attain anything like perfection. We would not, therefore, make a first-prize pen depend on the exploit of reaching it; but we would insist on its possessing sufficient merit to justify the awards in the eyes of one, who, needing such, and trusting to the judges, would send his money on the strength of it, in answer to an advertisement offering it for sale. We believe the effect of withholding would be to multiply shows and entries, because it would increase the sale of first-prize birds. It would make exhibitors more careful in their selection. It is notorious that at many of the small local shows the best birds are not sent, because inferior ones get first prize; but if it were found that on such occasions the first was withheld, better birds would soon be forthcoming. No pen that is not highly meritorious should ever take a first prize. Where there are not such, let the first be withheld; award the second and third. Again, if only one pen is shown, and it deserves it, let it have the first. When a good exhibitor writes from the north of England that a good white deaf ear in Spangled Hamburgs is seldom seen at the shows there; another that a first-prize Game cock had such a crooked breast that it was visible to the eye; and another that the first-prize Game Bantam had a squirrel tail; it is necessary either that more pains be taken in judging, or that more competent persons be employed in the office; or, and we think the mischief lies here, that first prizes be withheld from inferior birds, though they may be the best in their class.

#### GAME BANTAM PRIZES AT BIRMINGHAM.

Will Game Bantam breeders join me in subscribing for an extra cup to be offered at Birmingham for the best pen of birds in classes 82 and 84? I should also like to offer one for the best bird in classes 85 and 86, if we could obtain the necessary funds. If Cochins can raise £25 I think we ought to be able to get £15 together. I shall be glad to give a guinea, and to receive



the names of gentlemen willing to subscribe to a fund for the purpose. If preferred the amount might be divided into say three prizes, to be added to the Birmingham Council prizes, or competition for the cup or cups might be limited to the birds belonging to subscribers to the fund.—R. B. POSTANS, *Brentwood, Essex*.

## DURHAM POULTRY SHOW.—AUGUST 8TH.

The following are the awards made on this occasion :—

SPANISH.—First, J. Shorthose, Newcastle-on-Tyne. Second, J. Riekerhy, Durham. *Chickens*.—First, R. Tate, Leeds. Second and Highly Commended, J. Shorthose.

DORRING.—First, J. Gunson, Whitehaven. Second, Mrs. Clark, Chester-le-Street. *Chickens*.—J. Bell, Thornton-le-Moors, Northallerton. Second and Highly Commended, Mrs. Clark.

BRAMA POOTRA.—First, F. Powell, Knaresborough. Second, Rev. A. D. Shafto, Brancepeth, Durham. Highly Commended, H. Marshall, Durham. *Chickens*.—First and Second, A. Lacy, Hebden Bridge.

COCHIN-CHINA.—First, Rev. A. D. Shafto, Brancepeth. Second, J. Shorthose, Newcastle. *Chickens*.—First, Rev. A. D. Shafto. Second, Rev. J. G. Milner, Bellerby.

GAME.—First, J. Wilson, Tudhoe. Second, J. Sutton, Durham (Brown-breasted).

HAMBURGH (Gold or Silver-pencilled, or Spangled).—First, Second, and Highly Commended, A. R. Woods, Burnside, Kendal (Golden-spangled, Silver-pencilled, and Silver-spangled). Commended, T. Fairburn, Dunwellpit, East Rainton (Golden). *Chickens*.—First, A. R. Woods (Silver-spangled). Second, R. Tate, Leeds. Commended, T. Fairburn (Golden-spangled).

BANTAMS.—First and Second, J. Shorthose, Newcastle-on-Tyne. Highly Commended, T. C. Harrison, Hull.

DUCKS (Aylesbury).—Prize, Mrs. Clark. *Ducklings*.—Prize, Mrs. Clark. DUCKS (Rouen).—Prize, O. A. Young, Driffield. *Ducklings*.—First, H. Marshall, Durham. Second, Miss Robinson, Pitlington Hallgarth.

GEES.—Prize, O. A. Young, Driffield.

PEACOCK.—Prize, H. Marshall, Durham, twenty years of age.

PIGEONS.—*Carriers*.—Prize, J. Emmerson, Durham. *Tumblers* (Almond).—Prize, G. Procter and T. Pringle, Durham. Commended, T. Rule. *Tumblers* (Any other variety).—Prize, T. Rule. Commended, H. Yardley, Birmingham. *Fantails*.—Prize, H. Yardley. Commended, T. Rule. *Trumpeters*.—Prize, T. Rule. Commended, H. Yardley. *Barbs*.—Prize, H. Yardley. Commended, T. Rule. *Jacobins*.—Prize, T. Rule. Commended, H. Yardley. *Turbits*.—Prize, T. Rule. Commended, R. Tate, Leeds. *Owls*.—Prize, R. Thompson, Sunnybrow, Willington. Commended, T. Rule. *Pouters*.—Prize, J. J. Wilson, Darlington.

RABBITS (Best pair of any breed).—Prize, O. A. Young, Driffield. Highly Commended, J. Reed, Sunnybrow, Willington. Commended, H. Marshall, Durham; G. Moffatt, Durham.

## NORTH LANCASHIRE AGRICULTURAL SOCIETY'S POULTRY SHOW.

A POULTRY Show was held on the 10th inst., in connection with the annual meeting of this Society, at Acerrington. The *Dorkings* were, as a class, very good. Of *Spanish* the show was very small in numbers, but all exhibited were of a high quality; and the same might be said of the *Game* fowl. The Golden-spangled and the Silver-spangled *Hamburghs* were amongst the most attractive features of the Show, their excellence being indisputable. The following were the awards :—

DORRING (Grey).—Prize, J. Robinson, Garstang. *Chickens*.—Prize, D. Parsons, Cuerden.

DORRING (White).—Prize, D. Parsons, Cuerden. *Chickens*.—Prize, D. Parsons.

SPANISH.—Prize, R. Teebay, Fulwood. *Chickens*.—Prize, R. Teebay.

GAME.—Prize, J. Wood, Haigh, near Wigan. *Chickens*.—Prize, J. Wood.

HAMBURGH (Golden-pencilled).—Prize, T. Wareing, Preston. *Chickens*.—Prize, W. Bee, Goosnargh.

HAMBURGH (Silver-pencilled).—Prize, J. Robinson.

HAMBURGH (Golden-spangled).—Prize, J. Robinson.

HAMBURGH (Silver-spangled).—Prize, R. Teebay, Fulwood. *Chickens*.—Prize, J. Robinson.

POLAND.—Prize, C. W. Brierley, Middleton.

BANTAMS.—Prize, C. W. Brierley. *Chickens*.—Prize, D. Parsons.

COCHIN-CHINA (Chickens).—Prize, C. Sidgwick, Keighley.

GEES.—Prize, T. Houlker, Rividge. *Goslings*.—Prize, T. Houlker.

DUCKS (Aylesbury).—Prize, E. Leech, Rochdale. *Ducklings*.—Prize, E. Leech.

DUCKS (Rouen).—Prize, T. Houlker. *Ducklings*.—Prize, T. Wareing, Preston.

DUCKS (Any other variety).—Prize, D. Parsons, Cuerden. *Ducklings*.—Prize, D. Parsons.

TURKEYS.—Prize, E. Leech.

## BEEES AND BEE-HIVES

AT THE ROYAL AGRICULTURAL SOCIETY'S MEETING AT PLYMOUTH.

LIVING bees at work are always attractive, not only to beekeepers but to the general public; Messrs. Neighbour & Sons' exhibition formed no exception to this general rule, for their stand was at all times densely crowded. The chief object of interest was the Woodbury unicum observatory-hive, in which was a stock of Ligurian bees, with a very fine queen surrounded

by her yellow Italian subjects. Messrs. Neighbour also exhibited a square Woodbury glass hive stocked with English bees, in which the position of the bars and frames, with bees and combs, could be very distinctly seen. Both these colonies were brought from Mr. A. Neighbour's apiary near London. The bees obtained egress and ingress by means of a covered way nearly 3 feet long, which appeared but little to inconvenience them, whilst, being covered with glass, it added not a little to the interest with which they were observed. In the wall of the shed were small apertures, with alighting-beards fixed on the outside, and although the public passed in crowds before these unprotected entrances, no one was stung, nor were the bees themselves interfered with or molested—a warning notice appended to the outside being universally attended to, and a respectful distance maintained.

Amongst Messrs. Neighbour's collection were the Weedbury straw bar-and-frame, Neighbour's improved cottage, the ladies' observatory, cottagers', and many low-priced straw hives on the improved system. The impressed wax sheets, with specimens of combs partially worked therefrom, were interesting and curious. The bottle-feeder, bee-dresses, Indian-rubber gloves, and other apian appliances also received, and were worthy of much attention.

By way of illustrating the fruits of the honey harvest of the present year, Messrs. Neighbour had a square super of fine white honeycomb from the apiary of our esteemed correspondent Mr. Woodbury, and an octagon glass super from our valued contributor Mr. S. Bevan Fox, both of which admirable specimens were most highly commended.

## BEEES CARRYING OUT YOUNG BROOD.

CAN you explain the reason why bees in a remarkably fine strong May swarm should, on the 3rd inst., have carried out of their hive at least one hundred bees fully formed with legs and wings, but all quite white? For two days they continued to remove them. The hive is straw, with a small hive on the top, which is covered by another straw hive, all fresh, clean, and free from vermin. The bees have always been busy and healthy.—K. S.

[This may arise either from the brood becoming chilled by a sudden fall in temperature, or from the bees themselves being near starvation. We should advise an immediate and liberal supply of food.]

## BEEES IN STAFFORDSHIRE.

CONDITION OF HIVES ON APRIL 9TH, 1865.

A		B	
Swarm May 15th, 1864.	Hybrid	Swarm May 19th, 1862.	Storified in
queen July 2nd, 1862.	Very strong.	1863 and 1864.	Very weak.
C		D	
Swarm June 1st, 1862.	Storified in 1864. Very weak.	Swarm May 16th, 1864.	Pure Italian queen introduced October, 1864. Strong.
E		F	
Swarm of May 18th, 1864.	Strong, but no queen.	C and E were united, and the queen of C killed, April 10th, 1865.	

April 9th was a splendid day, and I closely observed the proceedings of the different hives. A great many beautiful Italians issued forth from n, proving that the pure Italian queen was safe; but a few of Mr. Lowe's puny drones were also visible. A considerable number of drones, the majority liliputians, were issuing from e, but I could not discern a single young worker, and this excited grave apprehensions, so on the following day, Monday, I overhauled the combs, and found, as expected, a sprinkling of drone brood, not compactly arranged, but a few here and there, in different parts of two or three combs, chiefly in worker cells. After a long and rigid scrutiny, failing to detect a queen, and concluding that the brood proceeded from fertile workers, I determined to unite this hive to c, and thus form a strong colony. The union was successful as far as the bees were concerned, and only a little fighting occurred; but on the following day the fertile queen of c was cast out dead. The bees completed several royal cells, and a queen was hatched on the 24th; but as she had not commenced laying upon the 15th of May, I killed her, and on the following day gave the bees two frames of brood with the adhering bees from n, to enable them to raise a queen from pure Italian brood, and also to recruit their diminishing numbers. Three royal cells were completed, but only one queen arrived at ma-

turity, and she emerged from her cradle upon the 30th, and has proved amazingly prolific.

May 4th a nucleus was formed by taking three combs with the adhering bees from D, and placing them with a frame of sealed honeycomb in a four-frame box. The bees were confined, but with ample ventilation, until dusk. When set at liberty upon the following day a great number of the bees returned to the parent hive, but sufficient remained to construct three royal cells; in three or four days, as the colony was very weak, a fourth frame of brood and bees was substituted for the frame of honeycomb, and most of the bees remained with the juvenile colony, and when a young queen emerged upon the 18th, the hive had become quite populous. Only one royal cell was fully completed. On the 7th of June I found that the hive already contained a good deal of sealed brood from eggs laid by the young queen, so I at once removed the bees into a full-sized ten-frame hive. Two frames of ripe brood from A were added to them, but all the adult bees were first swept off to prevent any chance of casuality to the young queen. This hive soon became very strong, and was fully occupied by the end of June.

May 20th D was completely sub-divided. In the first place the queen (pure Italian), with one comb of brood, was put into a new hive (G) with several frames of empty comb, and this hive was then located on the site of the old stock. Two frames of bees and brood were then placed in another hive (H) containing six frames of empty comb, and the hive was then put upon the stand of a very strong stock (A), which was removed to another part of the garden. The remaining frames of brood from D (5) were then replaced with the adhering bees in the original hive, with two or three additional frames of comb, and were located upon a stand about a yard to one side of the one they previously occupied. The majority of the adult population returned to their queen in G; but a considerable number, recognising their old habitation, joined the queenless stock.

The bees in H made a great number of royal cells upon the two frames of brood with which they were supplied (three upon one, and ten at least upon the other). On the 30th of May I killed the black queen in A, and gave the bees one of the frames from H, containing three royal cells, two queens were ejected, and the third now reigns monarch of the hive. Five cells were then excised from the other comb in H, and three brood combs having previously been removed from A, which had again become very populous after its removal on the 20th, these cells were inserted in one of them, and the three frames of brood, with a frame of sealed honeycomb were placed in a four-frame nucleus-box, which was then put on the stand previously occupied by A, which was again removed to a new situation. From some cause or other, this nucleus failed to rear a queen, but on the 5th of June H sent out, as I anticipated, a maiden swarm under one of the young queens. They were hived in an ordinary straw hive full of comb, and containing also a good deal of honey, and promise to do well.

On my return home finding that piping in both keys was still going on in H, I opened the hive, and, leaving the queen already at liberty mistress of the hive, removed the remaining royal cells. A queen emerged immediately from one of them, and was at once put under a tumbler. The royal cells were then inserted in one of the combs in the nucleus. I then took the captive queen out of durance, and placed her upon one of the combs which I held in my hands, and watched to see the result. One of the bees came up, seized the tip of the queen's wings, and gave several hard tugs, but then quitted her without inflicting any injury; other bees subsequently came up and she underwent a severe scrutiny, which made her very nervous, but no further violence was offered to her, and in half an hour afterwards, upon again inspecting the hive, I saw the queen quite at ease, pacing the combs, and she was piping in the evening. The royal cells were destroyed, and their inmates ejected.

By these operations, with only two hives in a position to give me any assistance, five good swarms have been established, a drone-breeding stock has been reserved from destruction, and E, which contained a young but very indifferent queen, has been supplied with a monarch reared from the brood of a pure Italian mother.

I have now nine flourishing colonies, seven of which are headed by fertile young queens reared from the brood of the pure queen received from Mr. Woodbury last autumn. This queen is monarch of the eighth hive, and the ninth is, I believe, under the guidance of a queen nearly three years old, sole surviving daughter of the original Italian queen received from Exeter in 1861.

All the queens raised this season commenced to lay within a few days of the time of their emerging from their cells, and have demonstrated by their amazing fecundity, that what are technically called artificial queens, are in all respects equal to those originally laid in royal cradles; and I doubt not that Mr. Lowe will find that artificial queens raised in favourable seasons prove quite as fertile as those reared naturally by the bees, without interference from the bee-master. Since 1856, I have raised a great number of artificial queens, and only two out of the entire number have proved themselves drone breeders. A third, though kept a considerable time, did not lay, and would, I believe, have turned out the same; but all these queens were raised in a unicomb hive, from which the exit was rather complicated and contracted. All those produced in ordinary hives or boxes have in every case proved perfectly fertile.—J. E. B.

## THE OLD BEE.

[From the German of JOHANN BAUMANN.]

By "A DEVONSHIRE BEE-KEEPER."

How many journeys hast thou travell'd  
To distant hills—to distant vales?—  
How oft the leafy maze unravell'd  
Where daylight into twilight pales;  
With wing untiring day by day,  
From morning's dawn till ev'ning gray?

With honey or with pollen freighted  
Often and often cam'st thou home;  
Brief was thy rest when overweighted,  
But prompt to fill the waxen comb;  
Sole end and aim of all thy zeal  
The progress of the common weal.

If when on guard before the city  
Thy post were threaten'd by the foe,  
Then undeterr'd by ruth or pity  
All hostile schemes thou'dst overthrow.  
He who attack'd whilst thou hadst breath  
Trode but the path that led to death.

To build the combs thy aid was given,  
To feed the brood, to rear the young;  
With willing mind and temper even,  
With active limb and pliant tongue;  
By day or night no rest for thee:  
Say, if on earth thy equal be?

Labour and toil thy portion ever,  
Thou faithful, clever, noble thing!  
What thy reward for such endeavour—  
What crowning blessing doth it bring?—  
Without remorse, when old and gray,  
To starve and die thou'rt turn'd away.

Thy wings that erst were full and rounded,  
By willing toil are chafed and worn;  
Yet with submission still unbounded  
Thou tak'st thy last sad flight forlorn,  
And slowly flutt'ring to the earth  
Forsak'st the home that gave thee birth.

T. W. WOODBURY.

Mount Radford, Exeter, 16th August, 1865.

## BEEES DYING—UNPRODUCTIVE STOCKS.

I had a flight of bees on June 18th, but another issuing on the same day I joined them, and they progressed well until the 11th, when I noticed several dead bees on the alighting-board. Having swept them off I left them till evening, when I found the board again covered. I determined to take up the hive immediately; it weighed 31 lbs., but the hive-board was covered with dead bees to from 1 to 2 inches deep. I had never noticed any fighting. The hive was on a post 5 yards from a weaker stock, and 50 yards from two others, all flights of this year. Can you give any reason for the death of so many bees? Honey is good, and everything seemed satisfactory?

I have also been unable to obtain a glass from a single old stock this year. I have a beautiful glass taken off July 8th from a swarm only hived on the 9th of June of this year. The glasses were put on principally on May 1st, the others on May 8th. There was a little comb in some, but they all sent out



strong swarms. Why do I not succeed? How large ought the supers to be?—**MINILYN.**

[Suffocation or dysentery are the only causes which appear likely to have produced such a catastrophe. If the entrance to the hive be very narrow, the accidental obstruction caused by the presence of a few dead bees may possibly have caused the former, whilst the latter would be indicated by the dead bodies being swollen to an unusual size.]

The want of decoy combs in your glasses would be a probable reason for your ill-success. Supers may be of any size from 3 or 4 lbs. up to 50, or even more.]

## NOTES AND QUERIES TOUCHING BEE-KEEPING.

1. I can quite corroborate what Mr. Bevan Fox says in favour of the plan of getting rid of the bees from supers by driving. I have not had many glasses to deal with, the bulk of my honey having been taken from duplicate bar-frame-hives used as supers; but on taking off the last glass, being pressed for time, I bethought me to try the effect of driving: therefore, keeping the whole glass carefully covered, I turned it bottom upwards, tapping the edge of the adapter against a doorpost. In about five minutes there was the usual hubbub among the bees, and out they rushed in a steady stream, and I had no difficulty whatever. I had made a memorandum to try the plan more fully next season, and am glad to find my experience is correct so far as it goes.

2. Can any one explain how it is that one particular hive in a neighbouring apiary has not swarmed for six years? It is a good-sized hexagon, rather large certainly, but, I think, not sufficiently so to account for the fact. The hive has always been strong, and has worked well in glasses. The reason generally given—namely, that the queen is from some cause unable to fly—will hardly hold good here, as the hive is now six years old, and this exceeds the highest estimate of the age of a queen. My neighbour, who is a most successful apiarian, and generally contrives to have both honey and swarms, proposes to drive it, and add the bees to a swarm of this year.

3. In removing a double hive (one placed above the other), to or from the moors, it would be much more convenient to separate them, and pack each by itself with perforated zinc; but will the bees in the super travel safely for twelve hours if separated from the queen, and having no young brood with them? Notwithstanding every care, many deaths occur in the removal of a single hive, and I imagine that the agitation and excitement of the bees in the case supposed might produce much mischief. I ask the question, because it is a serious matter to remove a hive of 70 or 80 lbs. to any distance, and especially with new combs in the super. There are far more bees than the lower hive alone will contain.

4. Being inclined to experiment a little in various materials for hives, I should feel much obliged by any information as to similar trials. As between wood and straw, it seems to be now generally admitted that straw has the preference. The difficulty is, that while it is easy to have wooden hives made to any pattern, a square straw hive is beyond the skill of a country workman. Has cedar been fairly tried against American pine? The former seems to be a more porous and spongy wood, but the only plea which I have seen urged in its favour does not seem a sound one—namely, that the odour is grateful to the bees, but distasteful to the moths. Is this a fact? because, ordinarily speaking, what is favourable to the one insect is also favourable to the other, and *vice versa*. Also, has paper or millboard, 1 or 1½ inch thick, been tried? Many years ago hives seem to have been made of this material, and at a very cheap rate, but I have never heard how they answered; and there is tan, respecting which your valued correspondent Mr. George Fox has spoken most highly. May I ask if his hives stand well, and if he still thinks as highly of the material as he did at first?—**F. H. WEST, Potternewton, near Leeds.**

[Your neighbour's stock having worked well in glasses appears a sufficient reason for its not swarming. Bees shut up in a super would certainly not be likely to travel safely for twelve hours. We shall be glad to receive information in reply to our correspondent's last query.]

**STEWARTON HIVES.**—Referring to the notice regarding Stewarton hives from "YORKSHIRE," at page 102, allow me to state that I have recently had a complete octagon hive from Mr. Eaglesham, Stewarton, consisting of two boxes 9 inches deep,

with honey-box the usual depth; each box is fitted with four frames in the centre of the windows, 5 by 3½ inches. The hive is of superior finish, and is altogether the best idea (after using them largely for the last twenty years), I have yet seen of the Stewarton hives. The directions for managing these, with the aid of the diagram sent along with them by Mr. Eaglesham, are so simple and explicit, that the merest tyro in bee-culture could have no difficulty in working them with success.—**URBANUS.**

[We are very glad to find from the above, and from Mr. Eaglesham himself, that he is *not* dead.]

**WASPS.**—Has anybody seen a wasp since May? In April the queens were so numerous that it was supposed we should have in the autumn an overwhelming supply of these troublesome and destructive insects, and it is recorded that one gentleman paid more than £6 for the destruction of queens in his gardens and grounds during that month. He might have saved his money. The sharp frost of the 1st of May appears to have done its work in destroying these insects, scarcely one having been seen since; so that the swarms which have in some years infested our houses, eaten our fruit, and given animation to the grocers' windows, are this year nowhere to be found. The complaint this year is of earwigs, which infest every house in the outskirts of the town and in the country.—(*Daventry Express.*)

## OUR LETTER BOX.

**CHICKENS DYING (Two Dams).**—We are at a loss to account for the death of your chickens, unless they find something poisonous about the premises. This, however, would not be the case everywhere. If you were to open one you would probably find the cause. We know nothing that would attack them at that age that would not do so earlier. Feed them generously on bread and ale, and put camphor in their water.

**DISTINGUISHING THE SEXES OF GUINEA FOWLS (Guinea).**—The reason why you get no produce from the eggs is because they are both hens. It is difficult to tell the sex, but the cock has longer wattles, and a larger coronet on his head. The hen only calls "Come back;" the cock utters a kind of wail. They pair as strictly as Partridges; and, unless an equal number of each sex be kept, there will always be many bad eggs. It is easy to tell the age. In the young bird the coronet or lump on the top of the head is covered with soft skin; in the old one the skin has become a hard brown crust.

**POINTS OF GOLDEN-SPANGLED HAMBURGS (Exhibitor of Golden-spangled Hamburgs).**—The distinction in question was in answer to a special case, in which a man justified a Golden-spangled Hamburgh with red ears by calling it a Mooney. We have always said, and we repeat, the white deaf ear is indispensable—one of the most positive and important points of the breed. Those who recollect the beautiful birds bred and shown by the late Mr. W. Worrall will at once admit that, although there may be difficulty in getting this, as there is all other marks of perfection, yet that gentleman never showed a pen in which the hen's ears were not the size, shape, and colour of a new fourpenny-piece. We have often heard Moones and Spangled Hamburgs called the same breed, and we have agreed with those who thought so; but these birds are the old Montagnes and Capulets—Yorkshire wanted black breasts, Lancashire would have them spangled. Years before this controversy some contended for henny tails, others for full tails. Now this present question arises from the distinction drawn by an amateur or a dealer between Mooney and Golden-spangle. The local Yorkshire Red-cap, a Golden-spangle, with exaggerated comb and gills, should have a red deaf ear. Indeed there is little doubt that they acquired their name from the redness of all the flesh that constitutes part of head and face; also that they are offshoots from the Spangled Hamburgs; but we do not tolerate a red ear in a Spangled Hamburgh, nor, in our opinion, should such ever have a prize—certainly not a first one.

**CONTINUOUS USE OF POULTRY YARD (C. A.).**—There is no objection to your keeping fowls in the same yard for a succession of years, more especially as they have a three-acre orchard to run in. With a view to profit solely, keep Cochins, China or Brahma Pouter pullets and a Dorking cock. Have the floor of the hen-house covered with loose sand, rake off the dung every morning, and whitewash the interior once or twice annually with a creamy mixture of chloride of lime and water.

**CLITHEROE POULTRY SHOW.**—"I sent a pen of Silver-laced Bantams to Clitheroe Show, and received back a pen of Brown Red Game Bantams, and would be glad if any one having received my Silver-laced instead of his Game Bantams will write to my address, or send them, when I will return the birds which I have received in mistake."—**S. J. ASHTON, Mottram, Cheshire.**

**ORMSKIRK AND SOUTHPORT POULTRY SHOW.**—In the list of awards published last week Mr. A. K. Wood, Burnside, Kendal, informs us that his name is omitted as having taken the first prizes in the Golden-spangled and Silver-pencilled Hamburgh classes, and a high commendation in the latter. The omission is that of the list which was forwarded to us.

**BEES GOING DAILY TO THE SEA (Rusticus).**—This superstition is wholly without foundation. It is, however, very generally diffused throughout the West of England.

**DRAINING HONEY FROM COMB—PREPARATION OF WAX (A New Bee-keeper and not a Farmer).**—Full directions for draining the honey from combs, and for rendering the latter into wax, are given in pages 28 and 29 of the fifth edition of "Bee-keeping for the Many," which may be obtained free from this office for five stamps.

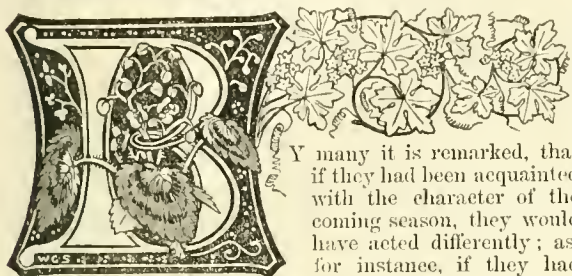
**STEWARTON HIVES.**—**MR. EAGLESHAM.**—"In replying to a question about Stewarton hives, in No. 227, you say, 'We have reason to believe that Mr. Eaglesham is dead,' a statement which may do me considerable injury, as I never, in any season, sent more hives to England than I have done in this. It is only about three months since I advertised in THE JOURNAL OF HORTICULTURE, and am at a loss to know how you came to believe I was dead."—**WILLIAM EAGLESHAM.**

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUG. 29—SEPT. 4, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
29	TU	Red Bryony berries ripe.	71.6	48.0	59.8	14	9	af 5	52	af 6	30	1	23	af 10	7	0 44	241
30	W	Meadow Saffron flowers.	72.0	48.3	60.1	9	11	5	50	6	25	2	16	11	9	0 26	242
31	TH	Elecampane flowers.	71.1	47.2	59.1	16	13	5	48	6	17	3	noon.		10	0 7	243
1	F	Partridge shooting begins.	70.5	47.5	59.0	19	15	5	44	6	2	4	13	0	11	after	244
2	S	Autumn Gentian flowers.	70.6	47.6	59.1	16	16	5	43	6	43	4	17	1	12	0 30	245
3	SUN	12 SUNDAY AFTER TRINITY.	70.3	47.6	58.9	16	17	5	41	6	19	5	28	9	13	0 50	246
4	M	Berberries ripe.	70.4	46.2	58.3	16	19	5	39	6	50	5	46	3	14	1 9	247

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 70.9°, and its night temperature 47.5°. The greatest heat was 85°, on the 1st, 1843; and the lowest cold, 32°, on the 29th, 1850. The greatest fall of rain was 1.50 inch.

## THE SEASON AND ITS RESULTS.



Y many it is remarked, that if they had been acquainted with the character of the coming season, they would have acted differently; as, for instance, if they had been certain of a hot period,

many tender plants would have been trusted out of doors, or if the contrary, more hardy ones would have been brought into use. Unfortunately, or rather, perhaps, fortunately for us, our insight into futurity in this direction is very limited, notwithstanding that weather-prophets are numerous enough, and each prognosticating something different, one amongst them has a chance to be right, and is by no means slow in taking credit for it; but I am not aware of any one telling us in the early part of the season that we were to have such an exceedingly dry period in June, and that the latter part of July and early part of August would prove so wet. However, so it has happened: therefore, let us see how the season has affected the various products of the earth, more especially those we are most interested in. At the same time let us call to mind what were our expectations at its commencement, how far these expectations have been fulfilled, and what more we might have done had we known how it would turn out. Before we condemn ourselves, let us recall the disappointments of former years, and though we may regret not having risked more plants out of doors this year, the sad realities of 1860 are still fresh in our memory. The three hot summers preceding that year favoured the idea that our climate was approaching somewhat nearer that of the tropics; but the cold, wet, dull year which followed more resembled a prolonged autumn than a summer, and our farmers, whose grass and hay crops had threatened to fail, had recourse to a substitute, semi-tropical in its habits, which had done good service in the few places in which it was tried in 1858 and 1859, and was, consequently, rather extensively planted in 1860; but the Asiatic summer had a poor representative here, and the plant has been heard of very little since, otherwise I have no doubt that it would have done good service in other years. I fear it has been prematurely condemned from its failure at a time when success was impossible.

As already remarked, we must plod on in uncertainty as to the probable character of the seasons, and expert to meet with varied successes and reverses; but as the present one is not without interest, let us investigate in what way it has been favourable to the various crops which we wish to prosper.

In the first place, the past winter was shorter than usual; for, instead of dragging on through the month of April with frosts more or less severe, we scarcely ever had the ther-

monometer down to the freezing-point in the whole month, while, strange to say, it was three times at that point in May. The spring, therefore, might be regarded as a favourable, and certainly an early one; May being on the whole a growing month for most vegetation, excepting grass, which, as a hay crop, was lighter than for many years. The blossoming of fruit trees was, on the whole, favoured with fine weather, yet all did not alike benefit by it. Apples, though not deficient in bloom, are not by any means a generally good crop; but Pears and Plums are, in most cases, abundant. One grower only half a mile from where I write, calculates his crop of Plums at 1500 bushels, although the proportion grown by him of that fruit is comparatively small. Cherries have also been plentiful. The greatest falling off among small fruits was noticeable in the case of Black Currants and Strawberries; the latter being soon over in consequence of the hot dry weather we had at the time of ripening, but the early fruit was not amiss, and the crop was a fair average. The forcing weather hurried them on so fast that they might be said to have ripened before swelling.

Of the plants most generally cultivated in the garden, there are some whose origin most likely has been in a cool, or, perhaps, moist climate or situation, and these plants cannot withstand the parching heat of such a period as we had in June, consequently their progress is slow, or, perhaps, retrograde, and I am not certain but that the Strawberry requires a much cooler situation than those in which we are often obliged to plant it. Certainly it grows in the far north as well as near London. Celery, too, grows better when the long dewy nights of autumn set in. Such plants, it is scarcely necessary to remark, made little progress in June, except where moisture was supplied by artificial means. On the other hand, by far the greater proportion of vegetables make most growth in warm weather, more especially those imported from warmer countries than our own. Kidney Beans will flourish in the hottest and driest season, and the same may be said of Cucumbers, Onions, Shallots, some sweet Herbs, &c., and for which our hottest summers are never too warm. The crops, I believe, have this season been generally good, especially Onions. Lettuces have also been quite as good as usual, and Peas certainly better. On the other hand, Potatoes, which in June promised to be small, took a second growth in July, and in the early part of August exhibited unmistakable signs of disease in its worst form, and which threatens to be as bad as in any season we have yet had. The Brassica tribe has been about as usual. On the whole, in the outdoor department of the kitchen garden, the summer of 1865 may be pronounced favourable. Enemies to the well-doing of different kinds of produce, however, have not been wanting, and foremost amongst those now annoying us are earwigs, which prey on wall fruit to a most destructive extent, and red spider has also been abundant enough, both under glass and elsewhere, but wasps hitherto have not made their appearance in anything approaching the numbers that were expected in the early part of the season. The other plagues of the garden may be regarded as existing to about the average extent.



In the ornamental department the season has been the means of restoring some plants to favour that have been going out for some years. Verbenas have, in general, done well, and the same may be said of Petunias where they are grown. Calceolarias have also been pretty good, and there is a good prospect of their improving to the end of the season. On the other hand, Geraniums have become too gross to flower well, and the kinds that have done so were not the favourites last year; one of the greatest delinquents in this respect has been *Stella*, which, although good at the present time, was by no means so early in blooming as some other kinds. This qualification is, I believe, more due to the season than to the variety. Now that all kinds have attained so robust a growth, an abundance of bloom can hardly be looked for, unless we have very dry weather indeed for the remainder of the season. The silvery-edged class have done well, but I think the golden ones have sometimes been better; the Ivy-leaved varieties have presented us with scarcely any bloom, and the strong growers of the flesh-coloured and white kinds have been little better than a mass of foliage. The same may be said of Tropæolums, with the exception of *T. elegans*, which is by far the most dwarf in its foliage of any of the trailing class.

Among plants with remarkable foliage, *Perilla* is still pre-eminent for its general service in its particular colour. *Centaurea candidissima* has been pretty good, but I have been disappointed in a plant I expected much of, *Arctotis repens*. Though it is everything that can be desired in a dwarf plant in a young state, its leaves turn to a reddish brown when they become old, and, consequently, neutralise the silvery hue which it has in its early growth. I should like to know if this is the case elsewhere. *Gazania*, *Cineraria maritima*, Variegated *Alyssum*, and others, may be pronounced to be about as usual. *Nierembergia gracilis* is better than in most seasons, and the same may be said of one or two *Mesembryanthemums*, while *Salvias*, *Ageratums*, *Chrysanthemums*, and other tall plants have become better and more robust than usual, and the same may be said of Dahlias, and several annuals. Perhaps one of the best of the latter as regards habit, is *Tagetes signata*.

The present season, I believe, presents us with as prominent an example as in any former one, of the partial way in which rain falls. In Kent we had a very dry June, the first three days and the last two in the month being the only ones on which rain fell, the rest being very dry and hot, parching the ground, and forcing forward all vegetation that could withstand it. Grass, however, even in the best pastures succumbed to the heat. Showers followed in July, giving us 3½ inches of rainfall in that month; the atmosphere, however, continuing warm things have grown rapidly, and rain falling still more abundantly in August, we begin to wish for dry weather to secure the ripening of fruits, &c., for up to the time at which I write (the 23rd) 5 inches of rain have fallen. Now, it appears that this abundant rainfall has not extended to London, and still less so to the north-western counties, where a dry season is complained of. I may, however, remark, that most of the rains we have had resembled thunder showers, although we have scarcely had any thunder; but as such showers only extend over a limited space, it is not unlikely that we may have had our full share. I have long been of opinion that "thunder weather," as it is commonly called, is most beneficial to vegetation, as well from the moisture that it affords to the earth and foliage, as from the properties which it imparts to the air; at the same time this benefit to vegetation in a direct sense is accompanied by another in what may be called a negative way, for myriads of the lower class of destructive insects fall a prey to the atmospheric influences they are unable to endure. On the other hand, I am not certain that this same condition of the atmosphere which imparts health and vigour to the higher class of vegetation, does not act in the same way on the lower grades, encouraging mildew, and the long train of evils which follow in its train; but I can hardly bring myself to attribute these evils to electricity, I would rather believe that they follow rain falling at a lower temperature than that of the air near the surface of the earth, or a period of continuous wet weather. It would be well if those interested in such matters would state their views.—J. Ronson.

WASPS.—Having seen in your Journal an inquiry as to wasps, I beg to say that we are much troubled with both wasps and hornets in the neighbourhood of Southampton, and, in spite of our protection against them, they are daily spoiling

much of our fruit; Apricots, Pears, and Plums, being their favourites. We have also an abundance of earwigs infesting both fruit and flowers.—A GARDENER.

## ON AND ABOUT THE SANDS AND ROCKS OF TENBY.—No. 3.

ALTHOUGH the bedding *Calceolaria* and *Verbena* are found to survive the winter in the open air at Penally, yet neither here nor at Stackpole Court are they exposed to the risk. Plants of those species accidentally left in the borders are those which have endured the exposure. Yet the climate of Penally and adjacent parts of this peninsula, especially those having a southern aspect, is strikingly temperate. An unmistakable evidence of this is a standard unprotected shrub of *Escallonia macrantha* in Miss Robson's garden. It is fully 9 feet high and 8 feet in diameter. The *Lilium giganteum* attained there to the same height.

The wild plants, too, about Penally are such as are unknown to the eye and gladden the heart of those to whom only our more northern flora is previously known. Among Ferns there is *Osmunda regalis*; but, in more striking abundance, *Lastrea thelypteris*, the Marsh Fern. I had been accustomed to look upon this as a rarity, but it is scattered liberally over the marsh between Penally and the sea. Among flowering plants elsewhere less abundant, are *Thalictrum minus*, *Lychnis vespertina*, and *Rosa spinosissima*, and I must remark on this Burnet-leaved Rose, that in places upon Penally Burrows it covers as with a carpet the sandy soil. *Sherardia arvensis* and *Asparagus officinalis* grow nearer to the sea on Giltar Point, the nearest land to Cady Island, where *Lavatera arborea* is found, *Gentiana germanica*, and *G. amarella*.

One of Miss Robson's guests informed me, that two years since a member of his family had found growing wild near Tenby *Isolepis gracilis*. I thought this must be a mistake, and the more so because "*FLUX-FÆMINA*," informed me that this would not endure without protection even the winters of Torquay. A plant of the Tenby species was obligingly given me, raised from that originally found on the marshy ground between the sea and the ruins of Amroth Castle. It proved to be *Isolepis setacea*. But when cultivated, as this specimen was, the leaves are as long and would be as ornamental on the dinner-table as those of *I. gracilis*.

Immediately in front of the marshy district at Amroth, is that submerged forest which I mentioned in my first communication. Mr. Gosse learned from an old man, resident at Amroth, that "People call it Sea-turf; they cart it away for manure, and it all goes to earth; they put it on the Barley and Oats. 'Tis light stuff, but 'tis the brine in it that's the good. They get it at low water, springs and neaps alike. Anybody can tell its wood by the look—the grain." Mr. Gosse afterwards saw specimens of the wood, some soft and decayed, other blocks perforated by, and with the shells ensconced within of *Pholas candida*. Other pieces are quite solid, resisting the knife and the saw as firmly as fresh wood. These last, Mr. Gosse observes, are evidently Oak. The soft specimens appear to be Poplar; but, he was told, Elm, Willow, and Alder likewise occur. Trunks and roots are occasionally laid bare after storms, having marks of the axe still fresh upon them.—(*Gosse's Tenby*.)

It is difficult to be quite satisfied with what one has said about the place where and those from whom one has received pleasure and kindness, but if I have said little, it is not because I appreciate coldly, and, having thus endeavoured to be self-exculpated, let me pass on to Penally's neighbouring village, Gurfreston.

I have already mentioned that the Samphire is still found by the Causeway Milk, near this highly picturesque place. Embosomed by trees, in a secluded dell, far from the cottages, and covered with Ivy, is its church; and I know of not one other in Great Britain where the world is less likely to intrude upon those who kneel within its walls. But there are three springs whose water bubble up in that dell, which ought to bring thither a throng of those who are travelling to win back health.

It is a fact, incredible as it may seem, that those three springs with barely a yard's breadth of earth between them, yield unceasingly streams of water each totally different from the others in its qualities. The highest, they are on a hillside, is pure water; the middle spring is strongly chalybeate, like that of Tunbridge Wells; and the lowest spring, like that of Harrogate, is impregnated with sulphuretted hydrogen. There is no shade

of error in this statement; for although the nature of the two mineral springs requires for detection no other test than the palate, yet it is stated, as the result of analysis by Dr. Golding Bird.

Now, Garmfreston is only two miles from Tenby, and I do not know of any other place in the world that thus offers its visitors sea-bathing, and either chalybeate or sulphuretted mineral waters. Were I a medical resident at Tenby, the United Kingdom from north to south, and from east to west, should be made fully cognizant of the fact.

Before I leave, lingeringly leave, that never-to-be-forgotten churchyard, I would record a remonstrance against its stone cross being entirely enveloped and hidden by Ivy. Let that "rare old plant" mantle the church walls and tower unhindered and unpruned, but let it not hide one inch of this early standard, for each is characterised by some peculiarity, precious at all events in the eyes of the antiquary.

On and away through high-banked shady lanes superlatively rich in vegetation, especially Ferns. Let me pause awhile over these, and first to observe on the absence of one from this neighbourhood. The climate and the rocks seem to be peculiarly suited to the *Adiantum capillus-Veneris*, yet it is nowhere found. Some one—but the authority is unknown—has stated that it is at Castle Martin, not far from the southern shore of Milford Haven; but a collector and vendor of Ferns at Tenby, told me that he had thoroughly but unsuccessfully searched Castle Martin for the Maiden-hair. More than one amateur collector bore similar testimony. This Fern may be excused for objecting to dwell in this neighbourhood, since twenty-one of its relatives have made it their abode. I saw them and collected specimens of nearly all. They are these—

*Asplenium adiantum-nigrum.*

*Filix-femina.*  
*lanceolatum.*  
*marium.*  
*ruta-muraria.*  
*trichomanes.*

*Eblethnum boreale.*

*Ceterach officinarum.* (This I was told was to be found scattered scantily over the walls of Carew, Manorbier, and other old ruins, but no one mentioned the churchyard wall of Bosheton, where I found it in greater abundance than I ever saw elsewhere.)

*Lastrea cristata.*

*Lastrea cristata var. uliginosa.*

*dilatata.*  
*Filix-mas.*  
*Femisecl.*  
*oreopteris.*  
*thyopteris.*

*Ophioglossum vulgatum.*

*Osmunda regalis.*  
*Polypodium vulgare* and several varieties.

*Polystichum aculeatum.*

*angulare.*

*Scolopendrium vulgare* and several varieties, *farctum* being the most frequent.

—G.

## PLANTS FOR ROOMS.

(Concluded from page 148.)

SEPTEMBER.—Gloxinias and Achimenes done blooming may be dried off in the late vinery, and those coming on should be removed to the stove without delay. All stove plants should be moved out of the vineries by the end of the month. Roses intended for forcing must be potted and plunged in a sheltered open situation. The early vinery will now be cleared of its fruit, and the laterals and all spray not absolutely necessary ought to be cut away; this will be beneficial alike to the Vines and the plants, which must be introduced at once, more particularly if dull wet weather set in. The glass to be cleaned, and all made sweet and clean. All greenhouse plants to be housed here, except such as can be accommodated in frames, which, however, will soon have to be cleared for bulbs and plants required for forcing. A little discrimination will be necessary in assigning the plants the most suitable position. Primulas and Cinerarias blooming, or far advanced for it, will do best on dry shelves near the glass, whilst Epacris and Correas, with other plants of similar habit, should be near the points where air is admitted. Camellias and Azaleas if not crowded will do in the centre. All dwarf plants, especially those growing, will do best on shelves. Young growing stock of Cinerarias and Calceolarias should be kept in frames some time longer, having protection ready against sharp frosts, which may come any time about the end of the month. Growing-Primulas will do much better on shelves after the middle of the month, as the atmosphere of frames always tends to cause damp at the collar. The pots of all plants housed to be washed and the drainage examined and put right if needed, the surface of the soil to be stirred and cleared of moss and fresh-surfaced if necessary. The Begonias for winter blooming will be doing well in the stove, and will need shifting into their blooming-pots. Chrysanthemums for early bloom to be placed under a wall or fence, where they can be protected if frosts set in

suddenly. *Cyclamen persicum* and its varieties to be potted and placed in a frame. Pelargoniums may remain in frames some time longer with abundance of air. Those cut-in last month to be shaken out, potted in smaller pots, and kept close in a frame for a few days, then give air freely. The most forward of those first headed back may now be stopped and allowed to break before moving into the early vinery; but their removal will depend on the weather. If there be a continuance of dull damp weather they will be better in the vinery, as such weather is apt to cause gross growths, and in extreme cases the leaves to spot or damp. The best place for Pelargoniums in vineries is shelves near the glass. Any plants done blooming and requiring the wood to be hardened or ripened, may be placed in the late vinery, from which all plants not requiring a dry atmosphere should be removed forthwith. It will do admirably for *Amaryllis*, *Epiphyllum*, and similar plants. The Grapes in it will be ready for use early in September. *Lachenalias* to be potted and placed on a shelf in the early vinery; also, *Ixia flexuosa*, *conica*, *viridiflora*, &c.; *Sparaxis tricolor*; *Oxalis tricolor*, *fulgida*, *sanguinea*, and *rosacea grandiflora*, which last is one of the best for spring blooming. Pot *Ornithogalum thyrsoides* into six or eight-inch pots in sandy fibry loam with a little leaf mould, giving the protection of a pit or frame. Violets to be placed in their blooming-pots without disturbing the roots much, and set in a frame with plenty of air. Take up clumps of Crocuses and Snowdrops for potting and plunging in a sunny place under a wall; also *Scilla bifolia*. Pot *Mignonette*, and thin out, as it never does well when crowded; the pots may be placed on shelves in the early vinery towards the end of the month. Pot the first batch of Hyacinths, Narcissus, and Tulips as early in the month as possible, and plunge in coal ashes in a frame, the lights being left off day and night, except in very wet weather, when they are to be drawn on and tilted. The Tea-scented Roses for late bloom to be protected from heavy rains, place them in a frame towards the end of the month, and draw on the lights in wet weather, but still keeping these tilted. *Jasminum nudiflorum* will now be showing for bloom; early in the month some plants of it in pots should be placed by a south wall. Plants on stems from 18 inches to 3 feet high are the most handsome, and form, with standard *Laurustinus*, charming objects for table decoration. They should be placed in sheltered situations and housed before severe weather sets in. Pot *Tropæolum tricolor*, *Jarratti*, and *brachyceras*, and place in the early vinery, training before the shoots become too long.

OCTOBER.—Correas Brilliant, *pieta superba*, *delicata*, *magnifica*, and others will be coming into bloom, as will also *Epacris Lady Penmore* and *Viscountess Hill*, the two very best for winter-blooming. *Erica scabriuscula*, *Lambertiana rosea*, *melanthera*, *colorans*, *mutabilis*, and *hyemalis* will be coming into bloom. They may be grown fairly in vineries, but must have the lightest and airiest situation, and be kept as cool as possible; they should be removed to cold pits early in spring, so that they may not become drawn. I have noted these plants as suitable for rooms, but they must not remain long, a week or ten days being quite long enough. Other decorative plants at this season will consist of *Primulas*, *Solanum capsicastrum*, and *Lueulia gratissima*, which, if not in flower, soon will be, if placed in a cool part of the stove or late vinery; and tree Carnations will continue to bloom more or less all the winter. Camellias will also probably be in flower; if not, one or two of the most forward should be placed in the stove, also a plant or two of *Inga pulcherrima*. *Monochatum ensiferum* and *Chrysanthemums* will also come in from vineries, improved by *Cyclamen neapolitanum*; *C. europæum* being over, if you have the right sort, and it is the sweetest of them all. From the stove we may look for *Poinsettia pulcherrima*, *Torenia asiatica* and *pulcherrima*, *Ardisia crenulata* for its berries, *Gesnera zebrina*, *Gloxinias*, and *Eranthemum striatum*.

The stove will be fully occupied, and the plants now require all the room that can be given. Ease it, therefore, by placing the Caladiums under the shelves or stage, and let Achimenes, Gloxinias, and Gesneras be placed in the cool vinery after their beauty is gone. *Amaryllis*, also requiring to be kept dry in winter, may be treated in a similar manner. These away, more room may be given the plants growing on, and plants requiring heat may then be accommodated. Among others introduce a plant or two of some of the varieties of *Epiphyllum truncatum*; they will bloom in December, if not earlier. Early in the month pot the second batch of Hyacinths, Narcissus, Tulips, and Crocus; also Lilies of the Valley, potting in small pots those that have thick crowns. They may be



plunged out of doors in a dry situation, and covered with an inch or two of sawdust, tan, &c. *Deutzias*, *Weigelas*, *Dielytras*, *Lilacs*, and other deciduous plants for forcing, to be kept dry and in a sunny place. Now is the time to procure, for forcing, dwarf plants (and the fuller of buds for bloom the better), of *Rhododendrons*, *Ghent Azaleas*, *Kalmias*, *Andromeda*, *Berberis Darwinii*, *Daphne cneorum*, and *Rhodora canadensis*. All these require peat soil, and should be taken up with good balls, and placed in pots just sufficient to hold them well. They may be plunged in coal ashes in a warm situation, or if there is a frame at liberty place them in it, as also the forcing-bulbs named above, which are all the better of protection from wet and severe frost. We can go any time and draft one or two as we want them into the stove, which is now our forcing-house. *Cyclamens* *coun.*, *Atkinsi*, and *vernum* to be placed on shelves in the late vinery, about half the stock of the two former, and all of the last, for if it is the true kind it will bloom in November. *C. persicum* and its varieties to be housed forthwith and placed on the shelves of the late vinery, as well as the *Cinerarias*, *Calceolarias*, *Pelargoniums*, &c., from frames, where they must no longer remain. *Primulas*, for spring blooming, to have a position near the glass, and to be shifted into their blooming-pots. *Chrysanthemums* to be brought into this house at or by the middle of the month, if no protection can be given outside. I would here remark, that in this month, the stove being for winter-blooming plants, a brisk heat must be maintained, and atmospheric moisture should be kept up more abundantly than in an ordinary stove. The temperature should range from 70° to 75° by day, and from 55° to 60° by night. Early in the month plants of *Adiantum cuneatum*, *A. vcapill.* *Veneris*, *Asplenium marinum*, *Lomaria Patersoni*, *L. l'Hermieri*, *Goniophlebium loriceum*, *Asplenium Veitchianum*, *A. bifidum*, *A. monanthemum proliferum*, *Blechnum gracile*, *B. polypodioides*, *Doodia aspera*, *Lastrea glabella*, *Nephrolepis pectinata*, *N. davallioides*, and *N. exaltata*, *Polystichum angulare proliferum*, *Pteris argyrea* (small plants), *P. cretica albo-lineata*, *P. scaberula*, *P. serrulata*, *Adiantum curvatum*, and *A. macrophyllum*, should have the drainage looked to, some of the old soil removed, and the brown fronds taken off, replacing the soil removed, or repotting, if necessary. In the moist growing-heat of the stove they will soon become fresh, and be lively all the winter, and very useful for table decoration. Some of the *Lycopods* are also useful, as *Selaginella Lyallii*, *Widenovi*, *formosa*, its near relation *stolonifera*, *Martensi*, *Lobbi*, *umbrosa*, and *denticulata*, the most useful of them all. The third and last lot of *Hyacinths* to be potted in the last week.

NOVEMBER.—*Cyclamens* will be represented by late plants of *neapolitanum*, *vernum*, and, it may be, forward plants of *coun* and *Atkinsi*, but this is not general. *Chrysanthemums* will now be coming into fine bloom. In the late vinery every bunch of *Grapes* must be cut with an inch or two of wood to it, and the end of this dipped in boiling sealingwax or pitch and tar. The bunches may then be hung up by this piece of wood in a cool dry room, where they should be looked over twice a week, and every tainted berry taken out. The *Grapes* may thus be sometimes kept till New Year's-day or even later. If the berries are very close together make a loop, and draw it tightly round the footstalk after passing it over three or four berries at the lower end of the bunch, and thus suspend. This will cause the shoulders to fall, and the berries will not hang so closely. If the shoulders are large it would be well to take them off. The *Grapes* being thus disposed of, the early vinery may be eased of the *Chrysanthemums*, and the shelves of the remainder of the *Cinerarias*, *Calceolarias*, *Pelargoniums*, *Fuchsias* (young stock to be kept slowly growing all the winter for early bloom), *Primulas*, *Cyclamen persicum* and *C. Atkinsi*, and *Violets*. Tea-scented *Roses* will also do in a light airy part. *Mignonette* to be kept rather dry and near the glass. *Pelargoniums* for an early bloom to be put in their blooming-pots. *Thysanacanthus rutilans* will be in fine bloom in the stove, *Euphorbia jacquiniæflora* now or soon, and some of the *Begonias*. I am told that *B. Digswelliana* is the best of all winter-flowering kinds of *Begonias*, continuing in bloom all the winter, and being remarkably free. Any of the variegated-leaved *Begonias* which it may be desired to retain in beauty through the winter must have a place in the stove; the kinds likely to bloom, in addition to their being attractive by their foliage, are *Marshalli* and *grandis*. *B. splendida* with velvety crimson leaves and large trusses of bloom is well worth a place, for its flowers contrast extremely well with the foliage. A few of the first-potted *Hyacinths*, &c., may be introduced into the stove, placing

them on a shelf in a cool part, and where they can have air pretty freely; a few more being introduced at intervals of a fortnight up to February. One or two *Deutzias*, *Dielytras*, *Lilacs*, *Weigelas*, *Rhododendrons*, *Azaleas*, and other plants may be introduced into a cool part of the stove in the same way as the *Hyacinths*, *Tulips*, &c. If the plants of *Salvia splendens*, *fulgens*, *splendens* *Souchei*, and *gesneriflora* are not showing bloom, they may have a shift, and will make fine plants for spring-blooming. Varieties of *Tropæolum Lobbianum* trained to an upright stick, and liberally treated to light and air, will bloom all the winter in the vinery. *Oxalis elegans* will be in bloom, or soon will be, on a shelf in the stove. All plants for forcing should have the protection of pits or frames. *Roses* for forcing to be pruned.

DECEMBER.—Previous directions being attended to, there will be no lack of subjects available this month for decoration. These will consist of *Gesneras zebrina* and *cinnabarina*, *Poinsettia pulcherrima*, *Euphorbia jacquiniæflora*, *Eranthemum pulchellum* and *strictum*, *Epiphyllum truncatum*; *Apbelandras cristata*, *Porteana*, *Leopoldi*, &c.; *Torenia asiatica* and *pulcherrima*; *Echmea fulgens*; a *Camellia* or two; *Lilies* of the Valley for Christmas, and a few *Hyacinths*, &c., for the new year, in addition to others before noted from the stove. The vineries will afford *Chrysanthemums*, *Primulas*, *Mignonette*, *Camellias*, *Correas*, *Epacrises*, *Ericas*, *Coronilla glauca*, &c. *Pelargoniums* to be potted, also *Cinerarias*, *Calceolarias*, and *Primulas* for spring bloom. *Chrysanthemums* done blooming to be placed in a cold pit, thereby making room for the hard-wooded plants and those liking cool treatment, which will have to be taken out of the early vinery towards the end of the month, the plants for forcing taking their place in the early vinery. *Gloxinias*, *Achimenes*, *Gesneras*, *Erythrinæ*, &c., will be at rest; they will do kept dry in any place with a temperature not below 45°. A few plants of the tall *Cacti*, as they are called, now introduced into the stove will prove useful. Continue to introduce more plants for forcing, selecting the most promising, it being vain to introduce any not well set for bloom. *Fuchsias* may be kept over the winter in a shed or cellar from which frost is just excluded. It must be here observed that in the vineries the temperature from fire heat must not on any account exceed 40° for the mere sake of having plants in flower. It is now too late to do by artificial heat what is best done by sun heat at an earlier period.

I have now gone over the whole year. It may seem to "AN OLD SUBSCRIBER" that I have named more plants than can be accommodated in his or her houses. My object was to make the subject as useful to as many of the readers of this Journal as possible, and if a difficulty of the kind alluded to arise with "AN OLD SUBSCRIBER," he will, by growing a few of such plants as he may have convenience for, attain his object. I should be glad to learn any additions that can be made to the list of plants, with remarks as to the periods when they can be had in flower, and the means to be adopted for securing this result.—G. ABBEY.

### THE RIPENING OF OUT-DOOR FIGS.

UNDER the above heading, you inserted, in page 129, immediately after a letter from myself, another from "A. T.," of Jersey. The two communications have a more intimate connection than at first appears. Our Jersey friend states that on the 29th of July he received a perfectly ripe basket of the most luscious Figs, and we know that these Figs appear in the London market some three or four weeks before we can produce anything like them. Now, most people on reading this statement will content themselves with saying, that Jersey being south of England, and, therefore, having a warmer summer, might be expected to produce earlier Figs; but the fact is, that Jersey has not a warmer summer than London, the average temperature of July being (according to Pettermann) 63.5° in the former place, and 63.6° in the latter. Besides this, it is to be remembered that the comparison is being made between a standard tree in Jersey, and a wall tree in England. Now, if the extra warmth of a wall is equal, as Loudon tells us, to about 7° of latitude, it is obvious that a wall near London, is, in climate, superior to an open garden in Jersey. So we must discard the popular hypothesis, and seek for some other cause than a warm summer for the early ripening of Jersey Figs.

Now, I believe that my letter above referred to furnishes the clue to the satisfactory solution of the difficulty. The January temperature of Jersey is 41.6°, of London 36.2°; therefore,



autumnal Figs grown so large as to be cut off by the London frosts, survive the Jersey winter. What wonder, then, if fruit which starts in the spring with the advantage of four or five weeks' growth during the preceding year, should ripen earlier than those embryos which have had to make almost all their growth during the current year? Besides this, from the severity of London spring frosts, it is necessary to keep the trees matted up till late; while in Jersey, the standard trees, open to every ray of spring sunshine, awake earlier from their winter's sleep, and thus gain still more on their northern brethren.—G. S.

### MR. STANDISH'S GLADIOLUSES.

HAVING just had an opportunity of visiting Mr. Standish's nursery at Ascot, and seeing some of his Gladioluses in bloom, for many had not yet shown flower, a few notes on them may not be unacceptable to some of the readers of THE JOURNAL OF HORTICULTURE who are lovers of this beautiful autumnal flower, which deserves more encouragement than it has yet received on this side of the Channel. In Ireland it is different; and Mr. Standish was just sending off his fine collection to compete for the ten-guinea cup which is offered by the Royal Horticultural Society at their autumn show to be held to-day (Aug. 24th), and which the Council had asked me to attend as Judge—an invitation I was obliged to decline owing to engagements at home.

My (what Mr. Standish calls) severe taste in these matters, leads me to regard with favour only those flowers which fulfil my ideas of goodness. They ought to be well-shaped, and not flimsy in petal, and showing the spike all on one face; not winged flowers, with so much of the oppositiflorous blood in them. Hence in my list No. 1 I have taken what our neighbours call the *crème de la crème*. Many in No. 2 are exceedingly beautiful and would satisfy the vast majority of people, although they may not come quite up to my standard.

#### LIST No. 1.

*J. W. Lane*.—A noble flower; bright vermilion, with a large yellow star in centre, and deep lake eye.

*Eleanor Norman*.—A lovely flower, of fine shape and habit; beautiful clear white, most delicately striped with purple. One of the best.

*Castor*.—Fine rose; with carmine stripes and pencilling. Very effective.

*Dr. Hogg*.—A brilliant, rich, scarlet crimson, with violet tint in the throat.

*Mrs. Dombra*.—A remarkably beautiful flower; pale rose, largely striped, and washed with deep lavender. Very striking.

*Miss Howell*.—Light rose, pencilled with carmine; white midribs and yellow throat. Very fine.

*Susan Ingram*.—Buff, changing to white; purple feathers and throat. Fine.

*Scottish Chief*.—Fine peach, striped and spotted with carmine; purple feathers on damask. Very beautiful.

*Beauty of Bagshot*.—Fine creamy rose, with deep velvety markings.

#### LIST No. 2.

*Aurelian*.—Scarlet.

*Caroline*.—French white, with purple.

*Mr. Rucker*.—Fine red; purple feathers, and white markings.

*Mrs. E. Nott*.—Buffish yellow; long spike. Flowers too far apart.

*Juliet*.—Very fine white.

*Basil*.—Fine pencilled carmine. Flowers somewhat loose.

*Norma*.—Very pretty; white, striped rose; rosy carmine feathers.

*John Leech*.—Salmon rose, striped with deeper rose; bronze tongue.

*Mrs. Hagg*.—Fine lavender-coloured flower. Very large.

*General Lee*.—Bright crimson scarlet, pencilled on the edge with deep lake.

*Sultana*.—Pale rose; yellow throat. A pretty flower.

*Excelsior*.—Bright salmon, buff-striped.

*Joseph Weston*.—Fine scarlet, with purplish-violet throat. Excellent.

*Samuel Weymouth*.—A most brilliant colour—scarlet, with yellow throat.

*The Ensign*.—A remarkably fine and brilliant flower, fiery red, with light crimson feathers.

*Carminata*.—Light carmine; very large and brilliant flower.

*Lord Clyde*.—Cerise; yellow throat; rich plum feathers, with yellow markings.

*Kathleen*.—White, striped and tinged with violet. Beautiful flower.

*Mrs. Standish*.—Clear white, with deep velvety feathers, very similar to Mrs. Dix.

*Lord Shaftesbury*.—Very showy flower, light rose or peach, striped with pink; pink feathers.

*Lucy Neal*.—Fine rosy crimson flower, with white stripes. Very distinct.

*Garibaldi*.—Very bright crimson; violet throat. Fine.

*Brian Boru*.—Large showy flower.

I hope to have the opportunity of adding to these lists before the season is over, and also of giving notes of some of the best foreign flowers, amongst which are some really splendid varieties, M. Souchet still maintaining the foremost position in France as Mr. Standish has done here.—D., Deal.

### BLACK HAMBURGH GRAPES NOT COLOURING.

My Hamburgh Grapes planted inside my vinery seem to have forgotten that they ought to ripen this year. I started them on the 1st of March, and judging by neighbouring vineries, they ought to have been ripe in July, yet not a bunch is free from greenish berries (inside the bunch), and I have left so many bunches on, that I do not expect them to turn black. My house is seldom under 75°, and the temperature often mounts up to 85°, or even 90° with sun. The border is damp enough, if I may judge by the leaves and young spray, and the laterals are ripening their wood quickly, so that I have no idea why the bunches seem to have made no progress in ripening for a month past, and if you can tell me I shall be much obliged. I may mention that alternate plants of Lady Downe's last year as well as this (my plants are only three years planted) have been, and are, as finely coloured as possible, yet they have and had a heavier crop of Grapes than I left on the Hamburgs.—J. MacKENZIE, M.D.

[The heavy crop certainly had some influence in preventing the colouring, but the chief cause is the great heat—not under 75°. The sun beat will not hurt them, but Hamburgs will ripen and colour better if you do not have them above 60° at night, even 55° would be better than 75° at night.]

### KITCHEN GARDENING.

#### MAY AND JUNE.

As these remarks on kitchen gardening are chiefly directed to cropping and keeping up a constant supply of vegetables, I think I may take May and June together; for in both months the work to be done is almost identical. The first crops will now be in a fair way to yield their produce.

As early in the month as the young plants of winter stuff are large enough to handle, I prick them out into beds to become strong for putting out between the rows of Peas or Beans. The spring Spinach being now fit to pick, the old bed of winter Spinach, which by this time will be running to seed, should be cleared, and the ground having been well manured, dwarf Beans are sown in rows at 5 feet apart, thus leaving room between the rows for Celery trenches, or whatever may be most in demand. The remains of the winter crops may now be cleared off, and the ground heavily manured, as it will have to carry two crops during the greater part of the summer.

I generally sow my Scarlet Runners in two successions, on the ground intended for winter stuff. I sow three rows at the end of April, or beginning of May, 5 feet from row to row, these will be staked, and in bearing in July and August; the winter stuff being planted some time in July. These three rows must be pulled up towards the middle or end of August to give the winter stuff the chance of establishing itself, though it will seem almost a sacrifice to pull up the Beans when in their prime; but they can be spared, as I sow three rows in the end of May, and they will take their place. The last-mentioned three rows I generally allow to stand over the winter, as the winter stuff between them being later, and, in consequence, not so hardy, will require the protection which the Bean-sticks with the dead haulm will afford; thus placing utility before ornament in this case at least.

As regards the Asparagus, which will be, so to speak, the most important vegetable in May, on no account cut any after the Peas are in, which will be in the end of May or beginning of June. The plan which I usually adopt, is to salt the beds and alleys as soon as the grass has grown about 1 foot high,



and Lettuces or other crops are cleared off, giving a coat half an inch thick, and washing it in with a good watering of liquid manure, not forgetting to give the Sea-kale a dose at the same time. This, independently of the good it does the plant, will act as a preventive against weeds for the greater part of the summer.

The Cauliflower will now need but little attention besides cutting and watering—in fact, the supply of vegetables at this time of year is almost unlimited, including Potatoes, Peas, Broad Beans, &c. All the seed-beds, such as those of Carrots, Beet, Parsnips, &c., should now be hoed, and thinned out according to the size required. The first lot of Cabbages may be cleared off, and the ground prepared for some other crop, as I think they are best off the ground directly they are not wanted, whether they are all used or not; but still I generally leave two or three rows of the second lot to make sure of a dish, if such should be required. The Turnip Radishes which were sown between the rows of Kidney Beans, should be cleared off, giving the latter a good soaking of liquid manure, and afterwards earthing them up. The early Peas, too, should be cleared off, giving the crop previously planted between the rows a chance; but if nothing has been so planted, put out at once some good strong plants of Savoys or Coleworts for early autumn use. The Peas which will be in bearing towards the end of June should be well watered and mulched, as without so doing it is almost an impossibility to grow a good dish of Peas, especially in such dry summers as those of the last two or three years. I find Yorkshire Hero do the best with that treatment.

The Potatoes will require flat-hoeing and earthing-up, but in a limited space of ground there will not be more than is required to last till autumn. I plant a few rows of Knight's Prolific, and Ashleaf, on the south border, and the others I plant between the Cabbages or Peas—in fact, wherever there is room to grow a few. Some that I had planted between the tall-growing Peas have turned out first-rate, and I think the Potatoes have acted as a natural mulching to the roots of the Peas, which are now (August) yielding capitally. Either towards the end of May or beginning of June, I sow my last lot of Peas, Knight's Dwarf Green Marrows, having previously sown the Champion, and others for successions to the second early, according to the demand. I find it a very good plan to note when the different crops are sown, and when they are gathered, and whether they worked in after other crops as they were intended, and by keeping a sort of diary of the cropping, year after year, I know the varieties to choose for this particular locality. This is a plan I would recommend to any of my readers to adopt, as the varieties that would insure a succession in one locality, would be almost useless in another: hence the utter impossibility of naming varieties and times of sowing to suit all parties. In the beginning of May a sowing of Cream-coloured dwarf Kidney Beans should be made—say two rows among and between the rows of spring Spinach, and a sowing of Dwarf Negro as soon as the first lot of Cabbages can be cleared off the ground. Salading will require attending to as to sowing, pricking-out, blanching, &c.—BURNWOOD, P. D.

(To be continued.)

### LILIUM AURATUM BULBIFEROUS—SEEDS FROM A WHISK BROOM.

I HAVE nowhere seen the *Lilium auratum* noticed as being bulbiferous. I have just removed five strong young bulbs from the axils of the lower leaves in my specimen. Another remains, not yet ripe enough to detach. The parent bulb flowered, for the first time, this month, having two main stems with a single terminal bloom on each. The buds before opening measured rather more than 7½ inches in length, making the fully-expanded flowers from tip to tip of opposite petals more than 15 inches across.

I enclose a leaf of a graminaceous plant raised by a neighbour from the seeds taken from a carpet broom. The plant is of fine appearance, between 4 and 5 feet in height, with leaves a yard long by 2½ inches in breadth, each having a prominent white midrib. For those who desire to mingle, at small expense, stately grassy foliage with their greenhouse specimens, this plant will be a desideratum. All that they require will be a moderate hotbed to raise the seedlings, and a few of the seeds obtained from amongst the fibres of a common carpet broom.—M. D.

[The leaf and panicle enclosed by our correspondent are from a plant of *Sorghum vulgare*, or Indian Millet. It is culti-

vated in Italy, and Ray mentions that brooms and brushes of it (known to us as "Whisks"), were in use in Italy, Venice, and elsewhere.]

### ROYAL HORTICULTURAL SOCIETY.

FLORAL COMMITTEE, August 22nd.—Another very excellent and extensive collection of plants and flowers was exhibited this day. Among Mr. Veitch's beautiful Orchids were conspicuous several plants of *Odontoglossum grande* in full perfection and very attractive. Seedling Dahlias and Scarlet Pelargoniums were the principal subjects for examination.

Mr. Bull exhibited a double Fuchsia with scarlet sepals and dark corolla, very free-flowering, and good, close habit. A label of commendation was awarded to this as being a decorative plant. Others consisted of *Xanthosoma violacea*; *Amorphophallus grandis*, in flower, a curious botanical specimen; and *Tapiocetes Caroline*, a very singular-looking plant, with pure white flowers resembling the Gesners, the foliage a dark bronzy green, very glossy, and covered with hairs. This was awarded a second-class certificate.

Mr. Veitch sent a fine collection of Orchids, which contained groups of cool-house and stove Orchids; a special certificate was awarded to each section. Mr. Veitch also sent *Cattleya hybrida picta*, a seedling between intermediate *violacea* and *guttata*; this had remarkably handsome flowers, dark rose, spotted all over with a deeper shade. It was awarded a first-class certificate. Messrs. E. G. Henderson, Wellington Road, sent Fuchsia Rhoderick Dhu, much-reflexed scarlet sepals and pale slate-coloured corolla, too much expanded to be elegant; *Croton elegantissimus*; *Agalmyla staminea*, a well-grown plant with a splendid wreath of scarlet flowers, broad ovate foliage, very handsome, which was awarded a special certificate for its good cultivation; *Amorphophallus zebrinus* (?), said to be *Alocasia triloba*, with beautifully variegated stems; *Sauromatum asperum*, and *Medinilla farinosa*. Mr. Wills, Oulton Park, exhibited seedling Verbena Scarlet Cushion, very dwarf habit and free-flowering. It received a first-class certificate as a useful bedding variety. Cut flowers of three other seedlings of dwarf habit came from the same exhibitor, among them General Lee, which was much admired for its trusses of rosy purple flowers; seedling Zonale Pelargoniums Gaiety, yellowish green leaves with bronzy zone; and Countess of Lincoln, coarse foliage; as had also the other seedlings, Neatness, Circlet, and Bridesmaid. Mr. Salter, of Sydenham, sent Zonale Pelargoniums Vermilion King and Sydenham Rose; cut flowers of seedling Verbena Blue De fiance, a promising flower, requested to be seen again; and two seedling Lobelias of the speciosa kind.

Mr. Legge, Edmonton, exhibited three dwarf Dahlias in pots, and three seedling Dahlias—viz., Mr. Braham, Pride of the World, dark golden tipped with red—second-class certificate; and Lilac Perfection. Messrs. Smith, Dulwich, had Zonale Pelargoniums Rev. H. Dombain; Crystal Palace Gem, with rather pretty foliage, pale yellow mottled with green; Premier, Bronze King, Gamblet, Siren, Orange Belle, Glow, many of them good varieties, but not first-rate, or differing from many others. Mr. Barker, Godalming, contributed *Asplenium erectum proliferum*, from the Island of Ascension, a very dwarf distinct Fern, first-class certificate; *Pteris flabellata ascensionis*, a fine Fern, first-class certificate; also a box of cut Petunias, with many good varieties among the single flowers, but not better than innumerable seedlings raised every season. Mr. G. Rawlings, Romford, exhibited seedling Dahlia Queen of the Dwarfs, and Firefly; and Mr. Turner, Slough, sent a collection of cut Dahlias, in very good condition. Mr. Walker, Chester, had Pelargoniums Brookfield Pink, a sport from Trentham Rose, a worthless variety. Mr. Pope sent seedling Dahlia Walter Newman, deep amber; Fanny Start, a fancy, white ground, heavily tipped with crimson; only one flower was exhibited. It was pronounced the best fancy Dahlia in existence, of perfect form. Mr. Kelway, Langport, exhibited several seedling Gladioli, among them one or two good varieties; the flowers were fading, and not in a condition for examination. Dr. Ainsworth, M.D., Manchester, contributed a small spike of *Dendrobium MacCarthiae*, very handsome—first-class certificate; Mr. Church, Brockwell, Dahlia Fire Meteor; Mr. Hopkins, Brentford, Dahlia Lord Enfield, deep maroon, Challenger, deep ruby, and Diana; Mr. Burgess, Dahlias Sir Eardley Wilmot, Lady Derby, and Mr. Lund, second-class certificate. From Mr. Keynes, Salisbury, came Frank Tiffin, second-class certificate; Lottie Atkins, first-class certificate; John Downie, second-class certificate; John Bunn, second-class certificate, Gladiator, Annie Austin, Ultimatum, and George White. Mr. Eckford, Colleshill, exhibited six seedling Verbenas—viz., Lady Jane Ellise, a very delicate flower, white ground, with a rosy circle round the centre—first-class certificate; Miss Annie Bouverie, John Keynes, William Dodds, Mr. Stevenson, John Stainer. Lastly, Mr. Butler, Clapham, sent two worthless double seedling Fuchsias.

FRUIT COMMITTEE.—Mr. George F. Wilson, F.R.S., in the chair. At this meeting prizes were offered for the best dish of Peaches grown in an orchard-house, which was obtained by Mr. Cox, of Redleaf, with Early Grosse Mignonne; and also for the best dish of Plums, which was gained by the same gentleman with Green Gage, Jefferson, and Diapric Rouge. Messrs. Lee, of Hammersmith, sent a dish of Gordon Castle Plum, a large obovate greenish yellow Plum which promises to be of considerable merit, but as it was not quite ripe Messrs. Lee intend exhibiting other examples at the next meeting. There were several



specimens of seedling Melons exhibited, none of which, however, possessed merit sufficient to entitle them to any award by the Committee; they came from Mr. Charles Hubbard, Woodcote Lodge, Carshalton; Messrs. Kelway & Son, Langport; Mr. John Wills, Oulton Park, and from Mr. Muir, Chilton Lodge, Hungerford. There was also another Melon from the Society's Garden, called Sirdur, which was also very deficient of flavour.

A Pine Apple was sent from the Garden of the Society which had been ripened out of doors on the geothermal-bed, which is now in such beauty at Chiswick. It was of the Queen variety, and was perfectly ripe and so well flavoured that it was remarked that fruit had often been eaten from under glass much inferior to that which was then exhibited. Mr. Richard Smith, Calderstone, near Liverpool, sent a fine specimen of Pine to be named, and which proved to be *Antigua Queen*. Mr. R. Laing, Twickenham, sent a very showy variety of seedling Crab about the size of a Golden Pippin but entirely bright red. It is a very ornamental sort, and in pleasure grounds cannot fail to form a striking feature. Messrs. Osborn & Sons, of Fulham, sent fine specimens of *Jambosa aquia* in fruit, which were much admired. Mr. Hale, of Harefield, sent a dish of a seedling Currant, which was so like Raby Castle as not to be distinguishable from that variety.

ANNIVERSARY OF THE LATE PRINCE CONSORT'S BIRTHDAY.—On Saturday last, the 26th inst., the gardens were thrown open to the public in accordance with Her Majesty's desire, and upwards of 129,000 visitors availed themselves of the privilege. They were a highly respectable and well conducted class of people, and the sum total of the damage done amounted to the turf being worn in places; but two or three days of this moist weather will put that right.

### ROSE MILDEW AND GISHURST COMPOUND.

AFTER reading Mr. Rudelyffe's interesting letter on Rose mildew at page 123, No. 229, I could not help very much wishing that he would try Gishurst compound; it has the double action of washing as a soap, and of applying sulphur in its soluble and therefore most active form, and I believe in his experienced hands would prove a more certain remedy than others which he has used.

About a fortnight back an experienced Australian horticulturist gave me an account of the use of Gishurst in the neighbourhood of Melbourne, where blights appear to live and breed all the year through, and he wound up with the fact, which to my mind said great things, that the cultivators around proposed presenting him with a testimonial for having introduced Gishurst.—G. W.

### MANAGING A HOLLY HEDGE—GARDENING IN NEW ZEALAND.

WILL you oblige a New Zealand subscriber to your useful Journal, with an account of how a Holly hedge is to be managed, from the sowing of the berries until it has attained the full size of a hedge? The soil here is a light vegetable mould, from 10 to 15 inches deep; the subsoil a peculiar yellow earth, sufficiently tenacious to allow of wells being sunk 100 feet or more in depth, without boarding or bricking-up, but which becomes quite friable and light immediately upon exposure to the atmosphere, and without a stone to be met with. Our climate is a very equable one; during upwards of twenty years' experience I have never known frost remain on the ground after 9 a.m., unless in a shaded place where the sun's rays cannot get at it, and the heat in the summer is not so great as in England, although the season lasts longer, as we generally have fine warm weather until the end of May, corresponding to your November. Many of what are greenhouse plants with you remain in the open garden with us all the year round, and this summer I have had a plant of *Colletia biconensis* in the open borders covered with its small white Heath-like blossoms. I mention this because I saw a notice in your Journal that this plant does not blossom in England.

We find great difficulty in finding a suitable plant for live fences. The White Thorn does not thrive excepting in sheltered situations in the bush; probably it does not thrive on the sea coast. The Furze grows very rapidly, but it is apt to be attacked with a fungus which kills it, and it is, besides, very troublesome from scattering its seed and encroaching on the land. I have a plant of Osage Orange, which for three or four years scarcely grew at all, but since I have removed it to a situation where a great deal of water drains on to its roots, it has made great growth, and this season has thrown out seven or eight shoots upwards of 6 feet long. This plant was at one time much talked of as a fencing plant, and many pounds of

seed have been sown here; but, I believe, not above fifty seeds vegetated out of the whole. Do you find this plant grow well in England? If you can suggest any fencing plant that you think would suit our soil and climate, I shall feel much obliged by your mentioning it in your Journal. The Holly hedge I wish to raise is for a garden, but this plant would be too expensive and too long in forming a fence to be available for agricultural purposes.

There appears to be a peculiarity in our soil or climate which does not suit some descriptions of fruit trees. Peaches fruit so abundantly with us in the open ground as standards, that I believe the fruit would be the cheapest food that could be grown for feeding pigs. Some are of excellent quality. They receive no cultivation: the trees are planted, and with very little attention to pruning, they bear such heavy crops in sheltered situations as to require to have the branches staked up to prevent their breaking down. Apples do moderately well, but are subject to the American blight, which spreads much more rapidly than in England. The common Cherry, like an inferior Kentish in appearance, fruits tolerably well; but the good cultivated sorts do not bear at all well—it is difficult, indeed, to make them fruit at all. The same remark applies to Plums, Pears, and Apricots. Pears bear tolerably well after the trees are from fifteen to twenty years old, but fruit is rarely produced until they are from twelve to fourteen years old. Plums and Apricots so seldom fruit that their cultivation is almost abandoned. Gooseberries do very well and yield heavy crops; but Currants of all sorts scarcely fruit at all. That the soil has all to do with it is, I believe, evident, as in the neighbouring province of Nelson all trees fruit abundantly. There the soil is very stony, and what we should consider a hungry one, and the trees make very moderate growth. With us, on the contrary, the soil is very good and the trees make a great deal of wood, but bear no fruit. I have lately begun to remove my trees on Mr. Rivers's plan, hoping to check the growth of wood and throw them into bearing; but there is not sufficient time yet to test whether this plan will answer. If you could give any suggestions in your Journal to obviate our difficulties in this particular, you will much oblige myself and my fellow colonists. The removal plan may do in a small garden, but would not be applicable to fruit-growing on a large scale in a country where labour is scarce, and an ordinary farming-man's wages 6s. a-day.—A SUBSCRIBER, *New Plymouth, New Zealand*.

[We are very much obliged by the interesting information which your letter affords. We are always pleased to receive such communications. We trust that some of our more experienced readers will be able to enter more into the subject than we can do; but we will, at least, show our willingness to oblige if we can.]

From your description of the rich surface vegetable mould, we have little doubt but that the Holly would thrive well as a fence, more especially if some 12 inches of the yellow soil were trenched-up and incorporated partly with surface soil, say 2 or 3 inches mixed with the rich soil, and the rest kept mostly at the bottom. No plant makes a better hedge than the Holly, and after it is established it needs but little care, as the annual growth is so short and stubby. As to the management: As the seeds are a long time in vegetating, it is best to treat them much like those of the Hawthorn. Mix them with earth or sand in a heap, and turn them now and then until all the fleshy covering is rotted, which will take a good part of a season, then the seeds may be separated from the earth by sifting, and sown in nicely pulverised beds, and covered with half an inch of fine soil. If the weather should be very hot, after sowing it would be advisable to cover the beds with fern or other litter to keep the seeds moist and cool. Your heat will be the worst enemy to the young Hollies. We advise thus sowing in beds, as the seeds will be the more easily protected from birds, &c. If the seeds are imported, it would be best to wash them free of pulp, dry them well, and sow at once. In the second year after thus sowing, the young plants may either be transplanted for another year into rows 1 foot apart, or into the hedgerow at once, placing them about 1 foot apart. Before doing so we would bring some of the surrounding rich soil, slightly mixed with the under soil so as to give a depth of at least 2 feet, if more all the better. Thus treated, we believe the Holly will grow with great vigour. Little attention will be required except stopping the plants that grow more strongly than their neighbours, and any very strong shoot that threatens to rob or take the strength from the lowest tier of branches. These should be encouraged so as to stand out from 18 to 24 inches from the stem. The wedge-shape will thus be secured,



which will give the most impenetrable fence and with the least amount of trouble in the way of cutting and training. From 3½ to 4 feet across at the base, would do for a hedge from 5 to 6 feet in height, and some 12 or 15 inches wide at top. The hedge may be perpendicular on each side, and as wide at top as bottom if deemed advisable, as the plant may be trained to any shape. If cut or pruned often, the outside becomes impenetrable even to birds.

The Osage Orange (*Maclura aurantiaca*), we have no doubt would thrive with you, and it is easily propagated by layers, and by cutting the roots into pieces and planting them. We have never seen a good hedge of it. One circumstance might account for this. Like some other plants, it is apt to keep up a lingering existence if the first shoots are retained on the plant; but if after the first or second season's growth these shoots are cut down to a bud or two, strong shoots will be thrown out the next season, and these, if stopped when from 5 to 6 feet long, might form a dense fence. We should imagine your climate would be more suitable for it than either England or North America. Here it will not compete with the White Thorn in general, though, if we had nothing else, it might be coaxed into a good hedge fence.

For an evergreen fence, few plants would beat the Portugal Laurel, which hardly any amount of cold in England or Scotland will harm. Your summers would just be warm enough for it; but it has always a good appearance, and stands cutting well.

The common Laurel (*Cerasus laurocerasus*), would greatly exceed the Portugal in growth, and in your climate would mount up with great rapidity. The difficulty would be the annual cutting, to keep it in bounds as a fence, but the cutting would give a great amount of firewood. Multitudes of plants could be easily obtained, first by seeds, second by layers, but more quickly by cuttings. As soon as the summer's growth is over, take off the young shoots, with a little bit of the previous growth; shorten the cuttings to some 7 or 8 inches, and plant the half in the soil firmly, placing them in rows a few inches apart, if in a shady place all the better. By the following spring most of them will be rooted, and many fit to transplant in the autumn.

Near the sea coast, where no other fence would live, the Sea Buckthorn (*Hippophae rhamnoides*), will thrive, and even in poor soil. It is propagated by seeds, and also by suckers from the roots, which it throws out in great abundance.

The common Buckthorn (*Rhamnus catharticus*), grows freely in many places where the White Thorn will not flourish, and from its dense compact habit makes an excellent fence; it is best propagated by seeds, which come up shortly after being sown.

The common Sloe Thorn, or Black Thorn (*Prunus spinosa*), though delighting most in a chalky loam, will flourish in almost any soil, and will thrive in saltish soils, near the sea coast. It is easily increased by seed, gathered when ripe, mixed with sand and turned over several times for three months or so, and then sown; but when a few plants are obtained, it increases amazingly by suckers. One plant left to itself would soon monopolise all the surrounding ground. When used as fences, its spreading must be guarded against, but this property prevents the necessity of planting thickly at first to make a good fence.

In poor soils the Locust Tree (*Robinia pseudacacia*), has made good fences on the Continent and in America. The common Arbor Vitæ bears the knife and shears well when used as fences. The Spruce Fir and Scotch Fir do tolerably in exposed places. We have seen fair fences of the Willow, made by planting slips a foot apart, twisting the heads together when 6 or 7 feet high, and then interlacing the lower shoots. But for fences in fields, on a large scale, where the Hawthorn will not grow, few fences excel those of the Beech and Hornbeam. The Beech, when cut, becomes impenetrable, and the old leaves hang on until the new ones come. The Hornbeam also keeps the old leaves a long time, and in rich soil grows with great rapidity. A thick fence soon becomes quite impenetrable. Seeds require much the same care as Hollies or Thorn, and the ground should be well stirred and enriched before planting.

For field fencing we should think of the last two; but we throw out these remarks chiefly for the purpose of obtaining information from others, and especially from those who have themselves been in New Zealand. The local knowledge in these circumstances is generally the best. Hence it is that we have made no mention of Yew, Evergreen Oak, Privet (one

of the most quickly got-up fences with us, and which would be impenetrable if mixed with a little Black Thorn), Laurestinus, Junipers, &c., because we do not know how they might succeed there; or even of the Thorn Acacia, besides the Locust Tree. As so many thrive in Australia, any practical information on these matters we shall consider as a favour, not only to our correspondent, but to our readers generally.

The account given of the fruit trees is very interesting. With labour so scarce, the only course it strikes us as being desirable to follow, would be very shallow planting, and that, too, on hillocks, so as to lessen the vigour of growth, without the trouble of either lifting or root-pruning; and if the growth is less vigorous, there will be little occasion for top-pruning. If such means are taken to lessen growth, there will be no occasion, we hope, to wait ten or fifteen years for fruit.]

## GARDENING AND GARDENS IN DORSETSHIRE.

THE REV. W. F. RADCLYFFE'S, TARRANT RUSHTON,  
NEAR BLANDFORD.

(Continued from page 145.)

STRAWBERRIES.—Although too late to see the Roses at Rushton in the height of their first bloom, I was more fortunate in respect to Strawberries; they were in perfection, and a most agreeable sight they were, the beds of strong healthy plants being loaded with ripe fruit. At the same time accounts were coming in from all quarters complaining of failure or deficiency in crop; here there was no indication of deficiency. Witnessing in part the treatment of the Strawberry-beds at Rushton after the crop had been gathered, I think it would not be difficult to account for the shortcomings we have so frequently heard of this year. The drought of last year was doubtless the chief cause, to which may be added, in some instances, insufficient trenching and manuring of the ground before planting; and had Mr. Radclyffe allowed matters to go on in the usual way, his crop would, probably, have been little better than that of others. He says, "Establish good pumps in your garden;" and with his industrious and steady hands, Steve and Fred, of whose careful labours I was also a witness, the copious and constant watering of the beds during the dry time of last year secured a glorious crop for the present season.

It would be superfluous to repeat here the mode of treatment adopted at Rushton, so closely following the excellent Strawberry article that appeared in the Journal a few weeks since. It is sufficient to state that, to me, the principal features of the Strawberry-beds seemed to be—the strength and health of the plants; the abundance and size of the berries; and, when examined singly, their flavour, weight, and colour. I add the last, for there is much beauty in a well-grown Strawberry.

The following kinds may be certainly reckoned among the best—Rivers's Eliza, Eugénie, Wonderful, Scarlet Pine, Frogmore Late Pine, John Powell, Sir Joseph Paxton, and one not so frequently met with as it deserves, the Royal Hautbois. "It is difficult to make a suit of clothes to fit everybody;" and if the flavour of the Royal Hautbois may not be quite agreeable to the palates of some, there can be no doubt that others will have a different opinion of it, and myself among them.

PEACHES.—If the gardening world has heard frequently of Mr. Radclyffe's three old Peach trees, I can assure it that it has not heard too much. Never before had I looked on such a renovation of old material, and I will hazard the conjecture that no one else has. I am afraid to say how old the trees are, for my memory may be a little at fault; but that they are many years aged is certain, and evident from the stocks upon which they are worked. They occupy a space of about 50 feet of the west end of the south wall, 8 feet high, separated from the adjoining marsh only by the Thorn hedge before mentioned. The spring frosts are fearful antagonists of these fine old specimens, but with the aid of canvass covering judiciously managed, a crop is always secured. At the present time there are not less than 500 Peaches on the three trees, and so evenly distributed, that they have the appearance rather of being fastened on artificially, than growing naturally. There they are—upon the old stump wood, at the very bottom and close upon the old branches, as well as upon the newer wood about the extremities; and there also the hydraulic processes of Stephen are constantly called into action, to keep the beautiful foliage in health, and defend it from the attacks of the red spider and other pests.

RASPBERRIES.—This is a subject that may be considered by some as rather too common to be worth remarking upon. Everybody can grow them, and everybody does because of their



Usefulness. We find them occupying a space at the cottagers' shows, and very pleasing it is to find that our poorer neighbours know how to appreciate their value. There is a right way, however, of getting them in perfection, as well as an indifferent one in leaving them to themselves. At Rushton the Raspberry canes occupy the south-western corner of the garden, and bear, as all Raspberry canes should bear, in profusion, and berries of large size. The strength of the plants is maintained by efficient manuring, which is allowed to work in by the action of the weather. As little or no mulching is done between the rows, the ground was, of course, somewhat hard; but it effectually prevents suckers, which is one great cause of weakening the plants. The whole of the plantation was covered with netting to prevent the depredations of the feathered tribe, to which, by the way, Stephen is not so friendly as could be wished.

PEARS.—Surely Mr. Rivers must be prince among us to have devised so manageable a plan of growing one of the most grateful of fruits. If we have been in the habit of regarding a Pear tree, either as approaching the dimensions of timber, or, in the espalier form, stretching its long arms for many feet in either direction, our ideas may now be greatly modified in seeing the diminutive little trees, smaller than an ordinary Currant bush, and small enough to be put into a portable pot. No garden, however small, need now be without Pear trees, with the further advantage to the owner, that if he be a horticulturist his plants will cause an interest from their manageable form and size. It would be premature to state what has been done with Pears on the quince stock at Rushton, since Mr. Radclyffe has not yet reported upon them, and that a little longer time is still necessary to complete a fair trial. They were all of them (about fifty), in excellent condition, and many of them loaded with promising fruit. I have no doubt that in due time we shall have a proper account of them.

I cannot conclude these notes without expressing my deep sense of the kind feeling and hospitality shown to myself and other horticulturists to whom I had the pleasure of being introduced while in Dorsetshire.—ADOLPHUS H. KENT.

## THE CALCUTTA BOTANIC GARDENS AND THE CYCLONE OF OCTOBER 5TH, 1864.

We have been favoured with a copy of the Supplement to the "Calcutta Gazette" of June 21st, in which we find an account so singularly and painfully interesting of the injury done to these celebrated gardens by the terrible cyclone of October 5th, that we do not hesitate to condense it for our own pages. A tropical botanic garden must of necessity be something very different from an English one. The stature and girth of the trees, the fine climate, the great multitude of species, must combine to give it an aspect of wonderful richness and splendour, and make it almost a terrestrial paradise, trying weather, and a thousand little difficulties with individual species, have no doubt to be encountered at times, just as in Europe; but the reward of toil and enterprise will be as much greater, one season with another, as an equatorial country is superior to a temperate one in respect to its adaptation to the growth of plants.

The Calcutta Botanic Garden was established towards the close of the last century, and has had the benefit from time to time of the superintendence of some of the most distinguished botanists residing in India. The number of species brought together was very considerable, comprising all the rare and splendid plants of the country, and large numbers from distant parts of the world, exhibiting a fair show of what tropical botany is, whether in the eastern hemisphere or the western. A large number of the timber trees in the garden were cut down by Mr. Griffiths about twenty years ago; the condition of the Garden, as appears from his report to Government in May, 1843, being that it was "choked with trees." Sufficient remained, however, to allow of the destruction of not less than a thousand in the terrible cyclone of the date above given.

The history and general character of the cyclone as it occurred in the city of Calcutta itself are well known to all readers of the public journals, having been fully narrated at the time. In the gardens this terrible visitation was far more severely felt, they being situated more in what was the centre of the storm—in the very vortex, so to speak, of this awful aerial whirlpool. It did not last long, but in the short space of its endurance there was done damage incredible to a European were it not described by a crowd of eye-witnesses. The

Garden suffered further from being near the river, across which the gale blew diagonally, and thus struck the trees and plants with a force unbroken for the space of a mile by any obstacle whatever. The damage appears to have been done between 11 A.M. and 1.30 P.M. The five hours and a half saw ships forced by the water on to the actual surface of the Garden; a large portion of the soil was submerged to a depth of 5 or 6 feet; and green trees were stripped not merely of their foliage but of their branches, so that what an hour previously were stately masses of verdure became bare poles, like those used to support scaffolding by builders. The most curious fact in the history of the destruction appears to be that the endogenous class of plants, speaking generally, suffered least, or at all events much less than the exogenous. So extensive was the destruction of exogenous vegetation, that the morning after the storm the country seemed to be inhabited almost exclusively by Palms and Bamboos. Not that the Palms were uniformly exempt from ruin; two species suffered severely—namely, the *Arca catechu* and the *Arenga saccharifera*. The Cycads also very generally escaped. Why the exogenous trees should have been victims to so great an extent while the endogenous were mostly spared does not appear; nor without experience of observations made on the spot, or at least in India, is it easy to speculate on the cause. Another very curious circumstance attendant on the devastation was the death of many trees through the mere force of the wind, or through the violent strain to which they were subjected during the chief pressure. During the height of the storm this was calculated to be 120 lbs. on the square foot. It is wonderful how great a strain trees will bear if it be administered gradually. In the winter, when the snow falls gently but steadily for many hours together, it is not unusual to see small trees bowed completely to the ground by the deposit upon their twigs and branches, and when the thaw has commenced they gradually return to their position unhurt. Coming, however, all at once, it is like the blow of a cannon-ball, and the tree can no more bear it with impunity than a human being. A third very curious circumstance was the complete upset of the vital economy of certain trees and plants. Several kinds flowered or fruited for the first time shortly after the visit of the cyclone; others, that ordinarily are deciduous, became partially evergreen; while others, accustomed to flower profusely, scarcely produced a blossom at the time when they were wont to be loaded with bloom. Nothing proper to the idea of a garden was visible the morning after the storm. Not a leaf or a flower or a fruit remained, and the paths and tanks were blocked with fallen branches.

Of individual instances of destruction, one of the most terrible and lamentable was the overthrow of the great *Adansonia*, the trunk of which was 12 feet in diameter. Out of sixty-seven Mahogany trees no less than thirty-one were blown down. Only four trees remain of the *Casuarina* avenue, and these are much mutilated. Of twenty-five *Araucarias* not one has been left with the main stem entire. In-doors there were destroyed of the fine collection of *Orchidaceæ* at least one-half; while the plants in the thatched conservatory were almost without exception annihilated. The only plants that seem to have defied the storm were the numerous species of *Ficus*, and these by virtue of their powerful aerial roots, which enabled them to hold on as if by anchors. The great Banyan tree, though injured, was not damaged seriously.

Such was the state of things produced by the awful cyclone of October 5th. The picture is in no respect overcoloured; it is below rather than above the reality. What should we think if the sweet lawns, and shrubberies, and grand old trees of Kew were, in the course of a short forenoon, to be totally obliterated? Yet this is the mournful condition of the best portion of the Calcutta Garden, which half a century will hardly restore to the beauty and richness it possessed on the eve of that fatal tempest. The climate is in its favour, and all that skill and devotedness to the work can accomplish will no doubt be given to the process of restoration; the loss is, nevertheless, one of the greatest that has ever been sustained in connection with a garden.

## MR. BULL'S VINERY, KING'S ROAD, CHELSEA.

People who have not been abroad sometimes imagine what a beautiful sight a vineyard must be, and conjure up all sorts of poetic visions as to the "clustering Vine;" but in the great majority of cases this is a mockery, a delusion, and a



snare. The vineyards of France and Germany are as much like plantations of Currant bushes as possible, and, let it be said, about as pretty. In Italy, indeed, where the Vine is often festooned from tree to tree, it is different; but without going so far south, lovers of beautiful sights may enjoy one by going to Mr. Bull's establishment at Chelsea. His winter garden is now a perfect show. The Vines are trained all along the roof, climb up the pillars and supports, and are festooned in all directions, and the side divisions of the house show a double

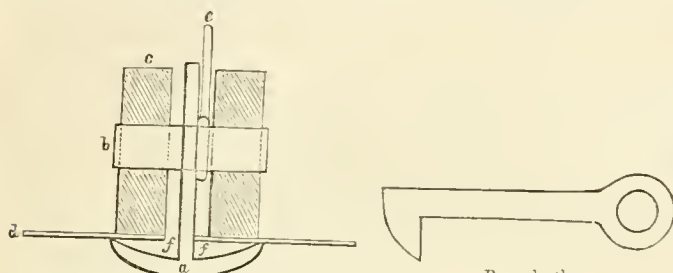
tier of finely-coloured Grapes. The Vines are now loaded with a beautifully regular crop of Black Hamburg and other Grapes, the bunches as regularly disposed as possible, fine in colour, and of good size. Nothing can be more charming than the aspect of this fine house; in fact, nothing of the kind is to be seen near London equal to it, and any one having time will feel himself amply compensated for his trouble. He will, moreover, have the opportunity of seeing some other remarkable novelties.—D., *Deal*.

### GLAZING WITHOUT PUTTY.

In accordance with your wish, I now try to describe my simple method of glazing without putty.

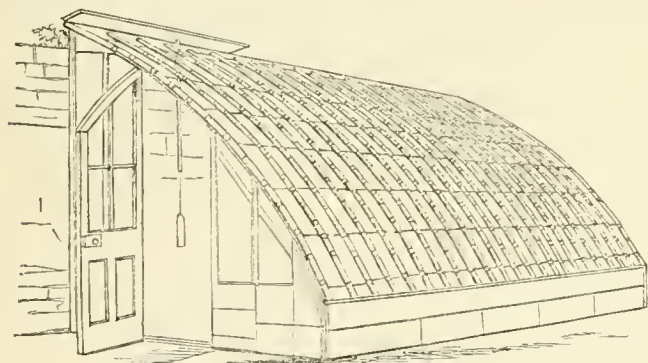
The bars are made of a new pattern T-iron, with a raised back  $1\frac{1}{4}$  inch each way, and the bar (a), represented in the accompanying section, is bent at each  $18\frac{1}{2}$  inches by machinery. Two pins (b) are riveted through in each length,

and on these pins is an indiarubber washer (c) at each end. These washers are three-quarters of an inch in diameter, and one-quarter of an inch thick, and just touch the iron. The sheet of glass (d) is inserted from the front between the iron and washer, the latter rolling round by the friction of the glass. A brass hook (e) is put on before one of the washers.



a, sash-bar; b, iron pin; c, indiarubber washer, four to each square; d, glass; e, brass hook, one to each square; f, f, water gutter.

Brass hook.



Top view of one sheet of glass 19 inches by 12.

which holds it fast on, and when the sheet of glass is up in its place the hook drops over the edge, and holds the sheet fast until released by lifting the hook up again.

I can put in twenty squares per minute, or take that number out in the same time. The cost of these roofs varies from 6d.

to 7d. per superficial foot. The house you have a drawing of is 24 feet by 11 feet. The upper board in front can be removed at will for ventilation. With a boy to assist, I can take the house down in three hours, and pack it, and I can erect it in the same time.—SAMUEL JUCKES, *Shrewsbury*.

### ADDITIONAL NOTES ON CONIFERÆ.

I HOPE the remarks of Mr. Cramb, at page 152, on Conifere will be followed by the comments of others having like experience. I am sorry, however, to learn that little hopes are entertained of *Pinus insignis* succeeding in the west central counties, where in general most trees thrive as well as in the more favoured coast districts. This fine species grows here (Linton Park), quite as rapidly as the Scotch Fir, and, so far as appearances go, is quite as hardy, the severe winter of 1860-61 not having had the least effect upon it, and it has borne cones for some years. The only Conifer of any size that suffered with us that winter was a species allied to *Pinus excelsa*—I believe *P. Montezumæ* or some other Mexican, which had suffered in hard winters before, and did so last winter also. *Pinus excelsa* seems quite hardy, and is this season bearing cones, as well as *Thujaopsis borealis*, and some other Conifers mentioned in a former article; but I rather regret than other-

wise hearing of *Wellingtonia* doing so, for, like Mr. Cramb, I think this will one day become the monarch of our forests. The best specimens we have are growing on moderately dry ground, but by no means shallow, and their progress is rapid; the tree seems to accommodate itself to even a dry stony soil and exposed situation, and grows luxuriantly enough.

I am far from certain what description of soil or situation suits the *Araucaria* best, for, with the exception of the one at Dropmore, the next best I know of is in Northumberland, where it is growing in a deep moist soil; and a short time ago I saw a very healthy young plant, about 10 feet high, that was growing about 6 feet from the edge of a large pond, its collar being not more than 8 or 10 inches above the level of the standing water, and nothing could exceed the healthy condition of the plant.

Next to the *Wellingtonia* as a new plant I should be inclined

to place *Thuja Lobbi*, a fast-growing graceful tree, not a shrub like the ordinary *Arbor Vite*, but a plant starting with the evident intention of becoming a tree. *Cupressus Lawsoniana* has not a more promising appearance, although it was put forth as one of the tallest of the *Coniferae*. As to *Cupressus Lambertiana*, the only drawback to its general adoption as a garden ornament is its liability to be blown down by high winds, otherwise its deep green hue exceeds even that of *Pinus insignis*. Of the more recently introduced *Conifers Retinospora pisifera* promises well, but *Sciadopitys verticillata* and *Abies Kämpferi* will take centuries (if they survive so long) to become even second-sized trees. Of the broad-leaved species of *Picea*, *Nordmanniana* is unquestionably the finest of the green class, while the silvery hue of *nobilis* is equally striking, and both are free-growing when they succeed well; we have the latter bearing cones, of the other we have not a good specimen. I believe, however, that most of the *Piceas* prefer a somewhat moist situation, certainly the Silver Fir, which may be taken as a type, does so; nevertheless the experience of others may teach us different; and I trust any one having a fine specimen of any of this popular family will kindly favour us with the conditions under which it has become so. I am sure all growers of *Conifers* must be grateful to Mr. Cramb for his useful article on the subject.—J. ROBINSON.

#### MR. DE JONGHE'S SEEDLING STRAWBERRIES.

I HAVE not had *La Fertile* or *La Favorite*, but I have had the following seedlings of Mr. De Jonghe:—

*Ne Plus Ultra*.—A burly strong plant, all large fruit, a heavy cropper, medium flavour; a good family and market sort.

*La Reine*.—White and roscate, tolerably hardy plant, very high flavour; a very interesting sort. I should like to see a cross between it and *Bioton White Pine*. It would give the latter more flavour and firmness.

*Lucas*.—This is the best of Mr. De Jonghe's high-flavoured sorts, so far as I have proved them, for general cultivation. It is hardy and a quicker grower, and quicker runner than *La Constante*. The fruit is level, and high-flavoured.

*Bijou* is a very small hardy plant of the same formation as *La Constante*. Its berries are beautifully formed, and beautifully seeded. It is a slow grower and slow runner. Its flavour is very good. The formation of the berries of this and *La Constante*, both much alike, is the best in any Strawberries known to me. It is suited to bedding purposes.

I cannot agree with "A FRAGARIAN," that the *Princee of Wales* is superior to *Wonderful* and *Eclipse*. It is the best style of sturdy dwarf plant, useful and good. I got rid of it because it exposed its beautiful white trusses to the severe hoar frosts.—W. F. RADCLIFFE, *Tarrant Rushton*.

#### THE CULTURAL MERITS OF MR. BEARD'S PATENT HOTHOUSES.

PLANT-HOUSES were originally erected for conserving, not growing, plants. They merely afforded protection from wind and rain, excluded the cold, and provided a medium of heat. The object was simply to preserve in life as many plants as possible in the smallest compass, and the semi-opaque houses then built sufficed for this purpose. The chief merit then was held to be in possession rather than in superior culture. To have plants, to know them, and to be able to marshal them in regular gradation according to their respective heights, comprehended much of the science and practice of gardening only forty years ago. Doubtless, gardening has changed and advanced wonderfully since then. If our tastes and pursuits are less ideal and lofty now, they are infinitely more useful. Perfection of growth, profusion and brilliance of flower, and quantity and quality of produce are the highly utilitarian objects aimed at by every lover of gardening. This change of taste and practice necessarily created the demand for different and better houses. The old plant-sleeping dormitories must be exchanged for living-rooms, where not only the heat but, as far as our climate permits, the light, air, and moisture of the tropics may be secured, if tropical produce is to be grown to perfection. The recognition of this fact arrested the erection of plant-houses for mere architectural effect, and the multiplication of those semi-opaque masses of ugliness, lumbered up, apparently, for the express purpose of absorbing spare timber, and oppressing the plants beneath into a living death, and

caused a new order of houses to be built on the principles of cultural utility.

Successful cultivation demands a sufficient supply of light, air, heat, and water, and that each of these be placed under the immediate and direct control of the practitioner. These, with suitable soil, are the elements which the transforming powers of plant life, and the skill of man, weave into every form of vegetable produce. Do Mr. Beard's houses furnish them in purity and plenty, and place each under easy control? I think they do. Mr. Beard offers no new plan of heating; but as these houses are, or may be, made closer than most, they will economise to the utmost extent both natural and artificial heat. The arrangement of the sash-bar will also favour an equable temperature. The entire structural arrangements are well adapted for the collection and stowage of water. The roof-plate collects it throughout its entire length, and every front pillar may convey it into tanks either outside or inside the house. These houses also cure, or reduce to the smallest limits, a great water-evil incident to most others—drip. Drip is caused more by the condensation of water on the inside of the glass than by the action of capillary attraction in drawing in the external rain, or dew, through the laps. Practically, this scarcely ever happens. But when the warm air of a hot-house impinges upon the cold surface of the glass, the air suddenly cools, and is unable to hold the same amount of water any longer, and, consequently, leaves it behind on the glass. So far, no harm is done. Presently, however, the water begins to run down the glass. In ordinary-lapped glazed houses, as soon as it reaches the bottom of the square it drops down in virtue of the change of level. Hence we have rows of drops all over houses, which prove a source of great mischief. From the very position of this water it is of necessity cold in cold weather. On ordinary metallic roofs, unless well painted, this water is generally impregnated with iron rust. Often such drops prove a chilling shower of death to tender leaves; more frequently they leave irremovable blotches on fine foliage. The mechanical arrangement of the glass in Mr. Beard's houses cures this evil. It presents a level surface inside and out; consequently, when the water begins to run, the chances are largely in favour of its flowing down to the bottom, where it falls into the roof-plate, into which the glass drips, and is conveyed away in company with the external water. It is said that no water gets through where the ends of the squares abut against or touch each other. The ventilation of these houses is very perfect. There is but little new in the mechanical arrangements by which it is effected, and in some minor details I think them capable of improvement; but the positions at which air is given are the best possible. The lowest and the highest points of a house are decidedly the spots at which air ought to be admitted and discharged, if the whole atmosphere of the house is to be renewed, and these Mr. Beard has chosen. It is of the utmost importance to change the entire air of hothouses. The rapid growth induced in them speedily exhausts the air of all its plant-feeding properties, and fresh air to them is, literally, new supplies of food. The quantity given must be largely determined by the amount of light and heat enjoyed, as air is not simply supplied as food, but as a controller of temperature.

There is another great advantage in admitting air at the ground level. In most cases, from 6 inches to 1 foot from the front wall is the most convenient place for placing the hot-water pipes. It is not only the most convenient, but the best, for they should always be situated at the lowest and coldest part of the house. Supposing that they are so placed in these houses, the fresh air will enter directly over them. It will thus get heated before it comes into contact with the plants. The rarefaction which the heat imparts will also cause a thorough circulation of the entire atmosphere of the house. If the pipes are furnished with evaporating-pans, kept full of water, the air as it sweeps over them will get charged with moisture as well. These arrangements are of the first importance in a cultural point of view. Cold air does not simply check, or chill, plants from its coldness, but also from its dryness. The colder it is the dryer it is, and if it is not moistened by artificial means, it will steal water from the first delicate foliage it touches. This loss of water causes a further depression of temperature, and often produces disease and death. All this may be prevented by warming and watering the air before it is admitted to the plants, and these houses admit fresh air at the best point for these purposes. They also allow the used-up heated air to escape at the highest point, where it is sure to be found in virtue of its lightness.

But the greatest cultural merit of these houses is, that they



admit more and purer light than any others I have ever seen. The superlative importance of light has only recently been recognised. Most of the old houses excluded a third, many one-half, of the direct light of the sun. What with pondrous rafters, heavy sash-bars, wide laps, with the usual accumulations of dirt on each side of them, and small squares of glass, I believe I have placed their illuminating power too high at half of their surface. Considering that Mr. Beard has abolished rafters and laps, and used only iron ribs of the smallest possible scantling consistent with the requisite strength, and that his glass is wide, I believe the transparent parts of his houses to the opaque would be as ten to one. It is impossible to exaggerate the immense importance of this great accession of light. Heat is not more useful in stimulating the vital forces of plants than is light in consolidating and moulding them into useful and ornamental forms. Light is the great manufacturing power of the universe. It works up the crude raw materials of nature into portable, beautiful, and edible forms, and lays at our feet, as trophies of its skill, flowers of surpassing loveliness, and that food which is the sustenance of our existence. Yes—

"All the world's beauty that delights our eyes,  
Is but of light the several liveries;  
Thou the rich dye on them bestowest,  
Thy nimble pencil paints the landscape as thou goest."

If all this is true, and it is, it is surely of the first importance to secure every possible ray of light for the full development of tropical plants in glass houses. Some of Mr. Beard's have been erected long enough to prove their superiority over others in this respect. At our last show his plants were remarked upon for their compactness of growth and high colour of flower. Doubtless, part of this was due to the skill of Mr. Suelling, Mr. Beard's intelligent gardener. We all remember that he used to show good plants grown in ordinary houses in his last situation. Still some of the characteristics noticed were, doubtless, attributable to the houses in which the plants were grown. I saw at Mr. Beard's a row of Scarlet Geraniums that had stood for several months on the ground floor against the back wall in one of his houses. They continued as dwarf and compact as could be desired, and were one mass of bloom. In a similar position in one of our houses they would have been a yard high, with only a few flowers. This fact may convince many, whom neither theory nor poetry will influence, that light forms flowers and produces fruit, and that the more light there is given the more there will be of both, and the greater the brilliance of the former, and more luscious the qualities of the latter.

These houses also afford more space for their size than any others. The glass coming down to the ground line, every inch of the ground is available for cultural purposes. In a house 20 feet by 10, there is a clear gain of 20 feet cultural area from the absence of bricks.

The vital question of price remains to be noticed. Most things have an absolute and a relative value. The first is their intrinsic, the second their comparative, worth when pitted against other things that will serve similar purposes. Few care to discover the former, as the latter forms the basis of trade; Mr. Beard's houses can afford to be judged by both of these tests of value. Let us look at their absolute price first. Accepting the house in the Botanic Garden as an example of price, as it is of structural and cultural excellence, I find by measurement that it contains 580 square feet. It is glazed with sheet glass, weighing 28-oz. per foot; the price is £50, or barely 1s. 9d. per foot. I very much doubt whether ordinary wood-framed glass houses can be as well finished at the price. I am, of course, aware that the Paxtonian and other houses are offered for less, but it is well to bear in mind that there is a great difference in value between mere frames and elegant plant-houses. Looking at their relative value, compared with other houses, this price must be largely reduced. In this light their completeness and durability assume a money value, and become equivalent to a reduction in prime cost. The ventilating apparatus alone would cost £5; the substitute for troughing and piping, and the iron door-step, are worth another pound. A pretty lengthy experience has also taught me, that ordinary wood and glass roofs cannot be kept sightly and in repair for less than 1d. per square foot per annum. By the most economical management, the 14,800 feet of glass here cost us over £60 a-year. Then, surely, Mr. Beard's enamelling process, which prevents the necessity of this outlay, is worth six years' purchase of repairs, or 6d. per foot. This amounts to a reduction of £14 10s. on the house in the Botanic Gardens. All

these items put together would reduce the price of this house from £50 to £30, or 1s. 0½d. per foot, a price which can scarcely fail to astonish many, and satisfy all purchasers.

Perhaps I ought to state, in conclusion, that I have no pecuniary interest in these houses, that these letters have been written without Mr. Beard's knowledge or authority, and solely as a duty which I felt pleasure in discharging to a most useful invention, which promises to promote the prosperity of the town, the improvement of gardening, and the good of the public at large.—D. T. FISH, *Gardener to Lady Cullum, Hardwick.*

[The chief part of this communication appeared in the *Bury Free Press*, but has been sent to us for publication, with some additions by Mr. D. T. Fish.—Eds.]

## PLANTING VINES INSIDE OR OUTSIDE A VINERY.

Will you tell me which is considered by experienced gardeners to be the best mode of cultivating the Vine? Is it better to plant in a border outside of the house, or inside the vinery? The former is, I believe, the old-fashioned style, the latter came into vogue of late years. By best, I, of course, mean the most productive, and, therefore, the most profitable mode.

A friend of mine has planted his Vines in the house, but there are arches in the front wall of it, to admit of the roots going outwards if they choose. On a line with the frontage he has, perhaps, nine or ten lights heated by one pipe connected with those in the vinery. In these he grows his Cucumbers, and in winter keeps his bedding plants. His Vines, which are young, do not seem to me so healthy and strong as they should be, and I am rather inclined to attribute this to the absence of the good old-fashioned border outside, and to the cultivation of Cucumbers and Melons so close to the house, which I should fancy must draw a great deal of the "goodness" of the soil, and thus impoverish the Vines. This, after all, may be a prejudice on my part, and for this very reason (coupled with the intention I have of erecting a vinery upwards of 30 feet in length), I am induced to write and ask you for your opinion on the two modes of Vine culture.—W. B. A.

[We decidedly prefer planting Vines inside a vinery, even if the border chiefly be outside; but the inside border must be higher than the outside one, and the roots must not descend to get under the arches, or beneath the wall plate. Of course, if you use your outside border for Cucumbers, or preserving bedding plants, that is a different matter, and the soil must be rendered more or less unfit for the roots of the Vines.]

## GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 4.

To strangers in Rome St. Peter's is the first great point of attraction—the sun, from which streams the light of the minor stars. I may never forget my first view of the interior of this great temple; it stands out alone in my memory, surrounded by a bright halo of its own. The exterior was at all times disappointing to me, and I entered the vast doors with a fear lest the same feeling might follow me within. The church was nearly empty, but I did not note it. There fell upon me instantly, and with wonderful power, a sense of my own utter nothingness, that bowed me to the earth with irresistible force. It seemed as if that mighty building, so vast, so unutterably magnificent in its tremendous proportions, awed me as the contemplation of eternity awes; and my whole being cried out for the God in whose honour this temple was raised—a temple that seemed almost worthy of being "the gate of heaven." I rose from my knees, filled with this same strange awe, to see a crowd of people hurrying in one direction. What great attraction was there? On reaching a given point they fell on their knees, crossed themselves, and, then rising, approached some object, which they reverently kissed, and pressed to forehead and lips with tenderest devotion. I went to the spot. There was no cross, no representation of the Crucified. I saw only a hideous black statue, said to have been that of some old Roman emperor, but now called St. Peter!

I was told that a Flora of the piazza of St. Peter's had been printed, but I have never seen it, nor did I gather one wild-flower specimen there. The shrine, beneath which the bones of St. Peter lay, was adorned by no bright wreath of fading



flowers; ninety-three lamps burned there night and day, and its *immortelles* are the prayers of thousands of burdened hearts which arise daily and for ever from kneeling multitudes up to the great white throne of God.

If St. Peter's is, as it were, the centre of Rome, this shrine is the centre of St. Peter's. From thence you can glance upwards to the incomparable dome, the immense magnitude of which the straining eye fails to realise, while its beautiful details are partially lost in the far distance; and from the dome downwards to the pavement of rich marbles, and along the vast nave to the great western doors, which, if you are fortunate, may be opening to admit a procession of Pope, cardinals, bishops, and clergy, who will pass through a file of Swiss guards in their strange amber red and black uniform, and fall on their knees to worship before the altar of the Blessed Sacrament. Or, it may be, you will hear in the distance the blending of many voices in a loud sonorous chaunt, and a procession of some confraternity will enter, headed by a cardinal, while some of the members bear a crucifix, others huge wax tapers, and all are covered by a loose white, black, or grey robe, with girdle and rosary round the waist, and a hood over the face, with holes cut for the eyes. Or the confraternity may be one of noble ladies, with attendants bearing kneeling-cushions, and every few minutes helping them to bear the weight of the huge tapers or crucifix. In Lent, procession after procession files in; at the door the chant ceases, and in silence they pass towards the altar of the Blessed Sacrament, and there fall down on their knees in lowly worship. After a while they rise and pass on, while another confraternity takes their place. Or, it may be, that you will hear soft music stealing on the air, and the echo of tutored voices rising and falling in measured harmony. Wandering away in the line of these vibrating chords—past many a noble statue, in marble or in bronze, of Popes long dead and gone—you will find yourself in the Capella del Coro, where you may listen to music of the sweetest from what is said to be one of the finest choirs in the world.

But what may you not see in this magnificent temple? At one time crowds will be worshipping a bit of the true cross, placed on high, surrounded by a hundred dazzling tapers; at another, Pope, cardinals, kings, and beggars will be kneeling before a handkerchief, said to have wiped away the sweat from the Lord's brow on His way to Calvary, and to have retained the impress of His features. At yet another time crowds will be marching up the magnificent Scala Regia to the Capella Paolina, to worship the Host, laid in a tomb, with many hundreds of tapers burning around, some of them hanging from the very roof of the chapel, which is draped in mourning. The whole ceremony has the appearance of the lying in state of some great person. None are forbidden entrance; and the motley crowd pass in and out in silence, kneeling and adoring, and then returning back to St. Peter's for other sights and ceremonies.

But the supreme moment in the annual life of St. Peter's is when the Pope, on Easter day, comes out on the balcony to proclaim to the world that Christ is risen, and to bless the assembled people in His great name. Then the tiny wayside flower, which lifts up its head from the masonry of the steps leading to St. Peter's, is crushed beneath the feet of a countless multitude of men and women, soldiers, horses, and artillery—every street leading to the piazza of St. Peter's is filled to overflowing by the crowd of people who can find no place in the piazza itself. The tumult and the buzz made by this concourse is so great, that even the roar of the cannon proclaiming the hour of noon seems to be in part stifled by it; but the instant the Pope, wearing his triple crown and borne on the shoulders of men, appears, every sound is hushed, every knee is bent, and nothing is heard save the distant barking of a dog or the neighing of a horse, while the Pope's magnificent voice rings over the enormous multitudes, calling down from on high the blessing of the Lord. And yet from most of these bustling spectacles of St. Peter's how refreshing it was to turn to the pure earth and sky! the one clothed in a carpet of many colours, the other wearing such hues of azure softness as I have never seen elsewhere.

One day, after a morning at St. Peter's, we drove to the Villa Pamfili-Doria, and had a lovely scramble after Anemones, Violets, and other wild flowers. This Villa is the Hyde Park of Rome on Fridays and Mondays, when it is most generously thrown open to the public, and its beautiful woods resound with the merry laugh of many a pretty English girl wandering amidst them, gathering bunches of dark blue Violets, much

darker and finer than our English ones. The grass was fragrant with the breath of Thyme; and here and there, amidst a profusion of Violets, I found the *Cyclamen latifolium* with its broad leaves so darkly and beautifully marked. The flowers had all been gathered, but I brought away the leaves to place in a bouquet of Anemones of many colours that I found growing in profusion. In places the ground was quite rose-coloured with the Anemone hortensia. The only Fern I saw was the *Adiantum capillus-Veneris*. It waved its tender fronds from many a stone of the rustic bridge placed over a piece of water, where stately swans were gliding about, persecuted by some Italian boys who were trying to rouse their anger, while two monks, very dirty and very slightly clad in brown serge robes with girdles of rope, looked on and laughed approval. These monks are to be met with everywhere—in the streets with a wallet on their back, in which they put the food they beg for their daily sustenance—on the stairs of the hotel, shaking a money-box in your face, and praying you to help souls out of purgatory—in picture-galleries, silent and observing, yet utterly apart from the busy world around them. I did not meet them, where, too, they may be seen, at the bedsides of the poor, consoling the dying, feeding the hungry, and ministering to the sick. Idle the many may be, but Italy without her monks would be in a worse state than England without her poor-house.

But to return to the Villa Pamfili-Doria with its untidy luxuriance of beauty, where Nature, left very much to her own caprices, riots and revels in superb indifference to all rules of horticulture, beautiful flowers and scarcely less beautiful weeds contending for pre-eminence; and amidst it all English lads were playing cricket, and English fair-haired maidens were having their croquet-match, near to the very spot where, in 1849, Garibaldi fought for what he deemed was Italy, and brave hearts bit the dust and ceased to beat for ever. There is a pretty orangery in the gardens; but Oranges in Rome are not like what they are in the Cornice—they seem to require care and looking after, and even with that many are sick and fruitless. In the garden of the Palazzo Rospigliosi I found some Orange trees almost without leaves on one side of the garden, while those planted on the sunny side were full of fruit and flowers. I asked the gardener about them, and he told me his Orange trees lost their leaves about every two years; but the situation was dry and not good for them, and the old man appeared to be thinking a great deal more of the expected pauls than of the neglected garden.

In the Rospigliosi Palace is the "Aurora" of Guido, a fresco painting that to my taste stands out immeasurably apart in its superiority from any profane picture I have ever seen. It tells its own story in a manner as bright as its colouring. Apollo drives through the air, his chariot surrounded by nymphs of surpassing loveliness. Aurora precedes the chariot, scattering flowers on the earth. The dark blue waters of a distant sea, bordered by hills, lie beneath, while over the entire scene there is the unmistakable look of nature just awakening from night to dawn. I wondered if the old gardener spent his time in peeping through the window at this incomparable work of art rather than in studying the indifferent page of nature that was his province.

One of the chief pleasures of modern Rome is its palaces, each containing some treasure, some glorious painting or choice piece of sculpture, that gives individuality to the building, and clothes it with a glory not its own. Who is there that, hearing of the Palazzo Barberini, does not instantly see before him the touching, childlike, pleading face of Beatrice Cenci? The glories of the Barberini family, Pope, and Cardinal, are alike forgotten, while the pictured story of innocence startled with crime haunts him, with its tender claim for sympathy, for ever. No copy of this most wonderful picture bears any comparison with the original. The white turban is there indeed, the white robe, the chestnut hair, the brown eyes; but they are as the clay figure of Prometheus—they lack the fire of life, the magic touch of the master's hand.—FILIX-FEMINA.

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

BERTOLONIA GUTTATA (Spotted leaved Bertolonia). *Nat. ord.*, Melastomaceae. *Linna.*, Diccandria Monogynia.—Received by Mr. Veitch, of Chelsea, in May last, as a native of Madagascar, but believed to be peculiar to Brazil. The foliage is most beautiful, being marked between the five parallel veins with



lines of distinct white or, more frequently, rose-coloured spots, giving the leaf the appearance of being studded with rubies. Flowers rose-coloured.—(*Bot. Mag.*, t. 5524.)

*SCUTELLARIA AURATA*, var. *SULPHUREA* (Sulphur-flowered Golden Scutellaria). *Nat. ord.*, Labiate. *Lim.*, Didymia *Gymnospermia*.—A variety of *Scutellaria aurata*, with smaller flowers of a pale sulphur colour.—(*Ibid.*, t. 5525.)

*PSAMMISIA LONGICOLLA* (Long-necked Psammisia). *Nat. ord.*, Ericaceae. *Lim.*, Decandria Monogynia. Native of South America.—A straggling shrub, with glossy, coriaceous leaves and bottle-shaped scarlet and green flowers.—(*Ibid.*, t. 5526.)

*PHALENOPSIS SUMATRANA* (Sumatra Phalenopsis). *Nat. ord.*, Orchidaceae. *Lim.*, Gynandria Monandria.—Native of Palembang, Sumatra, where it was discovered by Korthals more than a quarter of a century ago, but first exhibited in flower in this country by Mr. Day, at South Kensington, in the present year. Flowers yellowish white, barred transversely with broad streaks of reddish brown; the lip white, spotted with orange and streaked with violet or lilac.—(*Ibid.*, t. 5527.)

*PRIMULA CORTUSOIDES*, var. *AMENA*.—Introduced by Mr. Veitch from Japan. Flowers deep rosy purple, with white eye.—(*Ibid.*, t. 5528.)

*RHODODENDRON THIBAUDIENSE*.—Native of Bhootan. Flowers resembling those of a *Thibaudia* rather than of a *Rhododendron*, reddish orange, tipped with yellow.—(*Floral Mag.*, pl. 253.)

*AQUILEGIA CÆRULEA*.—Native of the Rocky Mountains, originally discovered by Dr. James, and raised by Mr. Thompson, of Ipswich, from seeds sent home by Dr. Parry. Flowers violet blue and white, with long spurs.—(*Ibid.*, pl. 254.)

*CLEODENDRON THOMSONI*, var. *BALFOURII*.—Raised by Mr. McNab, of the Edinburgh Botanic Garden. Flowers large, crimson and white.—(*Ibid.*, pl. 255.)

*PRIMULA INTERMEDIA*.—Raised by Mr. Fullar, Headingley, and now in the hands of Mr. Bull, of Chelsea. Flowers resembling a small-flowered *Auricula*, mauve; trusses composed of numerous pips.—(*Ibid.*, pl. 256.)

*SKIMMIA OBLATA*.—"Imagine the bright-coloured berries of the Holly set amongst the glossy lively green leaves of the Laurel, and something like a picture of this new *Skimmia* will be brought before the mind's eye. In September, 1864, Mr. Standish exhibited before the Floral Committee of the Royal Horticultural Society a specimen, in fruit, of this new hardy evergreen shrub, when it received, as it deserved, a first-class certificate. As a decorative shrub it is immeasurably superior to the ordinary *Skimmia japonica*, as it is called, beautiful and interesting as that may be, in certain situations; for it produces berries of the brightest vermilion red, in contrast with rich green foliage, while that has both foliage and fruit dull-coloured. The plant, which was one of Mr. Fortune's discoveries, must become a valuable acquisition for our gardens and shrubberies.

"On examination it has proved to be obviously distinct from all *Skimmias* yet known, in the remarkably oblate figure of its bright red berries, so very different from the oblong fruits of the *Skimmias* we have heretofore possessed. It is also remarkably distinct in the form and texture of its foliage, as well as in habit. It is a free-growing plant, with dense clear green leaves, and erect terminal panicles of white flowers, succeeded by bright-coloured berries nestling amongst the foliage. We are assured by Mr. Standish that, unlike the other species we cultivate, this bears exposure to the sun without injury."—(*Florist and Pomologist*, iv. 161.)

#### ENTOMOLOGICAL SOCIETY'S MEETING.

THE August meeting of this Society was held on the 7th inst., the chair being occupied by F. Pascoe, Esq., F.L.S., President. Amongst the donations announced were the publications of the Royal Society of London, the Linnean Society of Lyons, and the Zoologico-Botanical Society of Vienna.

Mr. McLachlan exhibited some specimens of the Ant Lion insect in the imago state, which he had reared in this country from larvæ which he had found at Fontainebleau.

Mr. W. W. Saunders exhibited a live Locust of a delicate green colour, of which he had received several specimens in a young state from Mr. Marshall of Edmonton, who had found them in his Orchid-house, where they had probably been imported with Orchids from Mexico. Mr. Saunders had found them very injurious amongst his Orchids since he had received them, a *Cyanophyllum* had been especially damaged; the

insects feeding by night so as to escape detection, their presence only being indicated by the holes which they had made in the leaves. On being secured in a glass vase their movements were very interesting, being almost incessantly engaged in cleansing their limbs and antennæ, which they draw through their mandibles.

Mr. Bates stated that during his residence in the Amazons he had never noticed any species of Locust to be nocturnal in its habits. He also described the apparatus by which the insects made the chirping noise so often heard, by means of a drum-like space at the base of one of the wing-covers, the opposite one having a serrated ridge, which is drawn backwards and forwards over the drum. The natives in some parts of the Amazon Valley kept these insects in cages for the sake of the noise which they make.

Professor Westwood stated that the insect in question did not belong to the family of the true migratory Locusts, but to that of the Grasshoppers with long slender antennæ (*Gryllidæ*); also that the apparatus by which the noise is made has a much greater resemblance to a tambourine than a drum, consisting of a single strong membrane stretched across a circular space with a raised margin. It was also stated that our British species, *Meconema varia*, which belongs to the same group, is often taken at night by sugar placed on trees for attracting Moths.

The President stated that he had received a particular account from a friend in Australia of the means by which the species of *Bolboceros* make a noise—namely, by the rotation and friction of the hind coxæ in their cavities, being furnished with a narrow groove.

Mr. Saunders, jun., exhibited a specimen of the very rare *Trachys pygmaea* taken in a marsh near Lowestoft; and Mr. D. Sharp a beautiful series of *Cryptocephalus 10-punctatus*, varying from red to black, taken at Rannoch in Scotland.

Mr. S. Stevens exhibited a box of beautiful Butterflies collected by M. Bouchard, Santa Martha, the extreme northern part of South America.

Mr. Smith communicated a note dated at the end of April last from Mr. S. Stone of Brighthampton, giving an account of the vast numbers of female Wasps which he had observed during the spring, notwithstanding the great destruction of Wasps' nests during the preceding autumn. The species which he had observed were *V. germanica*, *rufa*, *sylvestris*, and *vulgaris*. Many of these he had induced to commence building by making holes in banks, which they at once selected for their nests. It was, however, stated that up to the time of this meeting Wasps had been extremely scarce; and many nests which had been begun and partially tenanted had been destroyed from some cause or other hitherto unexplained.

Mr. Saunders suggested that possibly this might have been caused by the attacks of Earwigs on the young grubs in the cells of the Wasps' nests; whilst Professor Westwood considered that it was owing to the very violent rains which had several times fallen during the spring and summer. It was stated that Earwigs had this season been exceedingly abundant, probably in consequence of the long dry weather during the time when the eggs were being hatched. As many as a score of these troublesome insects had been found in a single flower of the *Oenothera macrocarpa*.

Professor Westwood gave an account of some peculiarities he had observed in the economy of the caterpillars of the *Ailanthus* Silk Moth, especially with reference to their feeding by night whilst young, their eating their cast skins, and the peculiar exudation of a white powder over their bodies previous to moulting.

The Secretary read some notes on the rearing of the *Saturnia* attar in France. Mr. Moore, however, stated that he had previously reared it in this country.

Mr. D. Sharp exhibited specimens of the larvæ of the beautiful *Lycus (Eros) aurora*, found in vast numbers at Rannoch under masses of chips of Fir trees.

Mr. Baly read a memoir containing descriptions of a number of new exotic species of Phytophagous Beetles; and the Secretary exhibited a remarkable specimen of *Bupalus piniarius*, which appeared to be intermediate between the male and female sexes; the body and antennæ being decidedly female, whilst the wings were marked like those of the male, being, however, suffused—the dark colours of the male being converted to a dull brown. He also made some observations on the classification of such monstrosities proposed by Mr. Newman, which was not sufficient to include the present individual.

## WORK FOR THE WEEK.

## KITCHEN GARDEN.

THE long-continued wet weather has favoured the growth of weeds, and rendered their destruction a matter of difficulty. The best plan to adopt, when hoeing and raking are not practicable, is to dig them down, especially the young generation. *Artichokes*, cut down the flower-stems and remove the dead leaves from the old plantations; those made last season will probably now produce a few heads. *Cabbage*, continue to plant out for Coleworts at every opportunity that is favourable. Prick out the young plants intended for the main spring crop. *Cucumbers*, those intended for house culture should now be potted into their fruiting-pots; the soil for the purpose should be composed of equal parts of loam, rotten dung, and leaf mould; good drainage should be given, the health of the plants depending, in a great measure, on this point. Allow one or two shoots to grow to the full extent of the house before being stopped. *Celery*, in earthing-up, the greatest care is necessary to prevent any portion of the earth from falling into the heart of the plant, which would prevent the upright growth of the inside leaves, and spoil the appearance for the table; nor should the earth be pressed too closely round the upper part of the plant, as, frequently, when such is the case, the latter bulges out below. The best practice is to tie each plant up loosely with matting, after having removed the suckers and small leaves, and then a little earth can be added every week as the plant increases in height. Another common error arises from earthing *Celery* up too soon: It should be allowed to grow to a considerable size before earthing-up is attempted, and be frequently soaked with water, as but little rain will reach the roots afterwards; it should likewise never be touched when the plants are at all damp. *Cardoons* will require similar treatment. *Leeks*, plant out the thinnings of the seed-bed as soon as the weather is favourable; this is a very useful culinary vegetable during the winter. *Onions*, no time should be lost in getting the crop stored when fully dry. As the ground is generally used for *Cabbage*, it should be immediately trenched up; if manure is necessary, let it be laid on the top of the trenched soil and fork it in; if, however, the ground was well manured for the *Onions* it ought to carry the *Cabbages* through, and they will always be the better thus, because, if too much manure come in contact with the roots in the autumn, it induces a succulent luxuriant growth, which renders them liable to injury from alternations of frost and thaw in the winter. *Turnips*, the last crop for the season to be sown; thin advancing crops. *Scarlet Runners*, let all the old pods be picked off, except a few of the best for seed, as they exhaust the plants for a succession. At the earliest opportunity earthing-up *Broccolis*, *Savoy*s, and all other crops that require it; remove *Peas* that are mildewed immediately they are done with; destroy caterpillars that infest the *Brassica* tribe before they do much mischief.

## FRUIT GARDEN.

The following few necessary precautions are to be observed in the gathering and storing of fruit. *Peaches* and *Nectarines* should not be allowed to remain on the tree until they are what is technically called dead ripe. A little practice will enable a person to determine the degree of ripeness at which they should be gathered, without resorting to the common way of pinching. *Plums* should be allowed to remain until perfectly ripe; the large amount of saccharine matter in the fruit acts as a preservative, and although something may be lost in bulk by their remaining on the tree, the flavour will not be deteriorated. Such as the *Impératrice* and *Golden Drop*, if protected from wasps, may be kept until a very late period of the season. *Apples* and *Pears* generally fall as soon as they arrive at an early degree of ripeness; that period must be anticipated, and their removal effected as soon as it is ascertained. After gathering, the fruit intended for keeping should be laid out in the fruit-room for a week or ten days, and exposed to a free circulation of air. The fruit will be found clammy from perspiration; it should be carefully wiped and laid out thinly in the store-room, which should be kept, as soon as the fruit is introduced, securely closed and protected from material alterations of temperature. If *Apples* and *Pears* are gathered carefully without bruising, and at a proper period sorted, all defective fruits being removed, and the rest stored in the manner above described—if they are placed on paper, so much the better—they may be kept with very little loss, and in a plump, highly-flavoured condition throughout the winter.

## FLOWER GARDEN.

Unless some precautions are taken to keep the taller plants

in the beds of geometric flower gardens within proper limits, they will be likely, towards the end of the season, to become too high, and will destroy the uniform appearance essential to this style of gardening. A constant watch should, therefore, be kept on plants likely to exceed the standard height, and by frequently pinching back or pegging down, endeavour to keep beds of the same pattern at the same height. At this season, with beds of flowering plants, frequent cuttings-back and trimmings will be required to prevent free-growing plants becoming straggling, and the late rains will contribute to their becoming so; at the same time allow no dead flowers or seed-pods to remain on the plants. By careful attention to these little matters, the season of blooming may be prolonged till the plants are destroyed by frost. Lawns should be well swept in dry weather to remove worm-casts, and afterwards well rolled. Where worms are very troublesome, water with clear lime water of full strength, this will bring them to the surface, when they should be removed. Cuttings of various evergreens should now be planted, to keep up the reserve-garden.

## GREENHOUSE AND CONSERVATORY.

Directly *Japan Lilies*, *Gladioli*, and plants of like habit have done blooming remove them to the foot of a south wall to ripen their growth; water them moderately till their foliage show signs of decay, when they may be laid on their sides till potting-time. The earliest-struck *Pelargoniums* should now be potted off, exposing them on all occasions to the weather, except during heavy rains. The older plants first cut back, which have made shoots an inch or two long, should now be shaken out of the old soil, the roots trimmed, and repotted in smaller pots; if they can be plunged in a slight bottom heat till the roots are started it will be of assistance to them. Attend to *Chrysanthemums*, water freely with liquid manure; good specimens should be aimed at rather than a few fine blooms. The earliest winter-flowering *Heaths* and *Euparises* must soon be placed under glass, as it will forward their blooming. *Hyacinths* and *Narcissuses* for forcing must soon occupy attention; about equal portions of good soft loam and decayed leaf mould, with a little sand, will be the best soil for them, if for forcing.

## STOVE.

The specimens temporarily disposed in other houses should now be restored to their proper position, and should generally receive the treatment calculated to ripen their summer's growth of wood, and so prepare them against the injurious effects of our trying winters. Let *Euphorbia jacquiniiflora* receive attention.

## PITS AND FRAMES.

Propagation of all the more important bedding plants should now be pushed on as quickly as possible. Let *Scarlet* and other *Geraniums* struck in the open ground be taken up, and potted immediately they have made roots; they will require a close frame for a week or two, when they should be placed on a dry bottom in a southern exposure to harden them for the winter.—W. KEANE.

## DOINGS OF THE LAST WEEK.

THIS day (Thursday), we have had a visitor that spent the most of Wednesday in the Crystal Palace, and was pretty well obliged to stay there. We have no regular rain-gauge, but judging from our tanks, more rain fell here yesterday than has fallen altogether since March. It will be of assistance to all fresh-planted things in the way of vegetables, but it will be almost sure to affect all the later kinds of *Potatoes*, and to bring us whole shoals of weeds, and so prevent our ever having the hour's idleness that used to be looked forward to in days of yore. We say nothing of the flower garden—that was rather radiant on Wednesday morning. This morning it was enough to give one a fit of the blues. Our finest ribbons and beds looked like faded washed-out finery, conjuring up much of the same class of mournful melancholy associations which we feel in witnessing in towns the cast-off garments of the rich torn to tatters by the poor and the unfortunate. Would that they too might be able to look up and rejoice, as the flowers will yet do if privileged with sunshine and calm. Many a tattered neglected flower of humanity, rough and uncouth to the eye, would yield a rich harvest of beauty and moral loveliness if only receiving that amount of cultivation which hearts thrilling with human sympathy knew so well how to impart. That seen-and-felt sympathy is everything in arresting and elevating the impulses of the stray waifs of humanity. Strive as you



will, honestly as you will, perseveringly as you will, and from as sincere a desire to do good as you will, but set yourself up as if much better than they—in one word, leave out the seen-and-felt sympathy with their condition, and your well-meant efforts will be as fruitless as the attempt to make flowers look their best amid the drenching downpourings of rain and the absence of the bright sun, with which they have so much sympathy that they ever look the best when basking in its rays.

We will allow that our friends the farmers, proverbial for their grumbling at all times and all seasons, have lately had some reason to be a little uneasy, though the chief harm should at present be confined to the blackening of the Barley, which will make it bring less in the market for malt, even though it should be none the less nourishing when ground as meal. In the extra labour and expense in securing the harvest in such a season as this, we thoroughly feel for and sympathise with them; and if we should pay a little more for our bread we would have no reason to complain, as it is best every way, that whilst every man should bear his own burden, we should also keep in mind and duly practise the precept, "Bear ye one another's burdens." But there is one matter connected with the present harvest in this neighbourhood which hitherto has not come so prominently under our notice—a practice which even now we hope is anything but general, and which we trust will ere long cease to be particular, and that for the benefit of all parties concerned, whether master or servant. A custom has long obtained in this neighbourhood that in consideration of the long hours something like double pay is given to the labourers in the harvest month. Sometimes a certain number of men engage to do all the harvesting for a certain sum, and the amount is generally such that in a fine season the men make a little more than the regular month's wages, and the having the work more quickly done is an advantage to all parties. In such a season as this it will tell against the men. The most general plan, however, is to engage men for the month at the increased wages agreed upon, generally the usual working men on the farm, with some additions if deemed necessary. Now it appears that, in many cases, farmers, who scarcely ever during the season send a man home on account of the weather if anything at all can be done, will send them home on these wet harvest days, and require the time thus lost to be made up at the end of the month, so that a man may have his harvest month extended for the same money into five weeks or more, instead of four weeks. It might not be fair to expect that when men could not go into the fields on account of the weather they should receive harvest pay, but it would tell greatly to the advantage of the men, and we think to the benefit of the farmer likewise, if the men were kept doing something about the homestead, and received for such days the common wages of the year, instead of constraining them to be idle against their will, and exposing them to the temptation of so spending that idle time as not to fit them over-well for the work of the following day; whilst much is apt to be spent that if unspent would have told on the comforts of home. Most facts may be used to bolster up opposite principles, but it requires no prophet's vision to foresee that if such modes become the general practice steam and horse power will ere long do what is now accomplished by human labour.

#### KITCHEN GARDEN.

Much the same as in previous weeks. Took up the remainder of the Potatoes. As we expected, a few are diseased, and a few signs of disease are appearing among those taken up early and harvested in good condition. Took up more Onions, as they are better out of the ground now, too much wet causing them often to mould, or rot at the points. Those sown to stand the winter are coming up nicely. The Spanish and Tripoli are good for this purpose, and so is the Blood Red for those who like it. Button Onions seem scarce, this season, unless where the plants were left thick on poor soils. Sowed the last Lettuces, &c., planted out a lot, and of Endive for succession, Cauliflowers, Coleworts, and a few of the earliest Cabbages, and will take the opportunity of the first dry day to run the hoe through every open spot, as a lawn might soon be formed, where a few days ago there was not the trace of a weed. We are constantly meeting with proofs that the earth to considerable depths is stored with the seeds of vegetation, that only require to come in contact with the atmosphere, &c., to grow and seed again. In sweeping the sides of kitchen-garden walks about a month ago, to make them look fresher, we threw along the sides a little sandy gravel, dug directly from the pit, and these sides where scarcely a weed was seen before, are sending up fine grass

like a carpet. We have known many instances of walks that scarcely showed a weed for years, yielding a plentiful supply when they were fresh-gravelled over the surface. Even in this respect, a fresh coating on the surface often makes much additional work afterwards, and in the case of these imported seeds of weeds, we know of no mode of preventing their growing unless some means could be resorted to for kiln-drying the gravel, and that would be an expensive process. There is a great difference in gravel pits in this respect, some scarcely contain a seed, and others are well supplied. It is advisable to use all gravels fresh dug; when the heaps lie long exposed many weed seeds are nestled in them. We recollect of a piece of gravel producing a rare crop of Sow Thistles, and yet not one could be found for a great circumference round the pit.

Made some Mushroom-bricks for spawning in a wet day; earthed-up another piece in our thatched shed, the first beds producing plentifully. Will smoke and clean the Mushroom-house, and begin there as soon as we can collect material sufficiently dry. Mushrooms, we believe have been plentiful out of doors this season, but they are not to be depended on like those grown at home. At the best they are ticklish things except for ketchup, and the boiling and the quantity of spice may make that harmless out of rather questionable materials.

#### FRUIT GARDEN.

Gathered fruit in fine days. Supported some Apple trees much loaded with fruit. Plums ought to have been more thinned. Melons have come in rather too much together. Watered the Fig-pit. Will clear Strawberry-beds as soon as the ground is dry. Potted more for forcing. Thinned out shoots, and shortened-in those of Peaches, &c. Gathered in the rest of the Apricots; though a heavy crop, the continued wet weather has made many rot and damp before they ripened. Thinned out part of the Raspberry canes, to give more room, sun, and air, for those intended to bear next year. Will continue these and other jobs as soon as the ground is drier. Looked over Vines to see that there were no damp berries. Kept fires in on these wet days, and gave air in proportion, and lest the red spider should appear, brushed the pipes over with thin sulphur paint.

#### ORNAMENTAL DEPARTMENT.

The less said of the flower garden the better for a few days, though a few hours' sun does wonders. Most of the beds will require picking as soon as the weather is drier. Fine trusses of some kinds of Geraniums have scarcely an open petal that is not drenched like a wet rag. Other sorts, as Rubens, Mrs. Vernon, &c., seem to brave the wet well, sending the deluges of water from their petals as if they were so many duck-wings. Stella stood well until this last drenching; now it will want a good deal of picking to make it bright again. Of all we have seen, for massive effect it is still No. 1. The usual routine of potting has been persevered in, on wet days especially. One row of Calceolarias had become too low, and we commenced raising it some 6 inches, but were stopped by the rains. We adopted the same plan some ten years ago, and the plants, lifted with a fork in large pieces, never felt the operation. We could not proceed, as the other rows becoming wet would have been discoloured by some of the earth that was necessary for raising the Calceolarias falling on them. A few hours' labour, when it can be spared, will thus often make a great difference in appearances. The growth of many plants is very different this season from what it was last, and thus people are apt to be deceived as to heights. Our chief work, however, has been mending up our small wooden boxes in wet days, washing pots, &c., limewashing the rough boxes, and putting in lots of cuttings, having fairly commenced with Geraniums, and taking the variegated kinds first. Of the common variegated kinds, there is a fine variety of Brilliant, called Improved, that we understand will be generally diffused next season. The foliage has more white in it, and the flowers are larger, and in larger and stronger trusses than the old Brilliant, whilst the compact habit is retained. We have, as yet, no reserve ground for cuttings—that is, plants to take cuttings from; and, therefore, they are carefully selected from the bottom of the plants in the flower-beds, so as to make as little appearance of being meddled with as possible. Short stubby pieces, from 3 to 4 inches long, are generally preferred. In such weather a good lot is taken when there is a dry interval of a few hours, and then the cuttings are made when it is wet. The boxes average 2 feet in length, 9 to 12 inches in width, and 3 or 4 in depth; enough riddings are strewn along the bottom, then we partly fill in with good fresh lumpish soil, giving a casing of



lighter sandier soil on the surface. The cuttings are dibbled in from 1 to 1½ inch apart. The variegated kinds may have a cold pit, and some old lights laid over them; the common Scarlets will mostly stand in the open air. The boxes we prefer at first, because it saves lifting and potting if the cuttings are placed first in the ground; and though we have no objection to using rather large pots for cuttings, we think we can move them about more quickly and easily in these boxes. The boxes are so roughly made that we do not need to trouble ourselves about drainage; the water escapes by the sides fast enough. There is just one disadvantage in the use of such rough boxes—they are apt to have fungus about them when standing in a damp place, hence the limewashing. Pots, however, will always be the favourites with many, and for scarce things three or four cuttings in a four-inch pot is a good plan for securing quick-striking and healthy plants. We have had numerous inquiries about striking Scarlet Geraniums from leaves. We have no faith in it as a matter of practice. Striking a leaf, with a bit of the stem at the bottom enclosing a bud in the axil, is a different thing, and is not leaf-striking. As a general rule, little is gained by using cuttings less than 3 inches in length.—R. F.

### COVENT GARDEN MARKET.—August 26.

ALL kinds of fruit and vegetables in season continue to be abundantly supplied, and quotations are nearly the same as last week.

FRUIT.					
	s.	d.	s.	d.	s.
Apples.....½ sieve	1	0	2	0	
Apricots.....doz.	1	0	3	0	
Cherries.....lb.	10	2	0	0	
Chestnuts.....bush.	0	0	0	0	
Currants, Red ½ sieve	3	6	5	0	
Black.....do.	4	6	6	0	
Figs.....doz.	1	0	2	0	
Filberts.....lb.	0	9	1	0	
Cohs.....do.	0	0	0	0	
Gooseberries.....½ sieve	0	0	0	0	
Grapes, Hambro.....lb.	1	6	4	0	
Muscats.....lb.	3	0	6	0	
Lemons.....100	8	0	14	0	
Melons.....each	2	0	to 5	0	
Mulberries.....punnet	0	6	1	0	
Nectarines.....doz.	1	6	6	0	
Oranges.....100	10	0	20	0	
Peaches.....doz.	4	0	8	0	
Pears (Kitchen).....doz.	0	0	0	0	
dessert.....doz.	1	0	2	0	
Pine Apples.....lb.	3	0	6	0	
Plums.....½ sieve	2	6	4	0	
Quinces.....½ sieve	0	0	0	0	
Raspberries.....lb.	0	0	0	0	
Strawberries.....lb.	0	0	0	0	
Walnuts.....bush	14	0	20	0	

VEGETABLES.					
	s.	d.	s.	d.	s.
Artichokes.....each	0	4	to 0	6	
Asparagus.....hundle	0	0	0	0	
Beans Broad.....bushel	0	0	0	0	
Kidney.....do	3	0	5	0	
Beet, Red.....doz.	2	0	3	0	
Broccoli.....hundle	0	0	0	0	
Brus. Sprouts.....½ sieve	0	0	0	0	
Cabbage.....doz.	0	9	1	6	
Capsicums.....100	2	0	3	0	
Carrots.....bunch	0	4	0	8	
Cauliflower.....doz.	3	0	6	0	
Celery.....hundle	2	0	3	0	
Cucumbers.....each	0	4	0	8	
pickling.....doz.	2	0	4	0	
Endive.....score	2	0	2	0	
Fennel.....bunch	0	3	0	0	
Garlic and Shallots, lb.	0	8	0	0	
Herbs.....bunch	0	3	0	0	
Horseradish.....hundle	2	6	4	0	
Leeks.....bunch	0	3	to 0	6	
Lettuce.....per score	0	9	1	6	
Mushrooms.....pottle	2	6	4	0	
Mstd. & Cress, punnet	0	2	0	0	
Onions.....doz. bunches	3	0	0	8	
pickling.....quart	0	6	0	6	
Parsley.....½ sieve	1	0	1	0	
Parsnips.....doz.	1	0	2	0	
Peas.....quart	0	9	1	6	
Potatoes.....bushel	2	0	3	0	
Kidney.....do.	3	0	4	0	
Radishes doz. bunches	0	6	1	0	
Rhubarb.....hundle	0	0	0	0	
Savorys.....doz.	0	0	0	0	
Spin-kale.....hasket	0	0	0	0	
Spinach.....bushel	3	0	4	0	
Tomatoes.....doz.	2	0	3	0	
Turnips.....bunch	0	4	0	6	
Vegetable Marrows dz.	1	0	2	0	

### TRADE CATALOGUE RECEIVED.

W. Cutbush & Son, Highgate, London.—*Descriptive Bulb Catalogue for 1865.*

William Bull, King's Road, Chelsea.—*Retail List of New, Beautiful, and Rare Plants.*

B. S. Williams, Paradise and Victoria Nurseries, Holloway, London.—*General Bulb Catalogue, General Pelargonium Catalogue, and Fruit-tree List.*

### TO CORRESPONDENTS.

HAMILTON ON THE PINE APPLE (*E. S. Jones*).—It is out of print. This mode of culture is included in "The Pine-Apple Manual," just published, and which you can have free by post for thirty-two penny postage stamps.

SCHINUS MOLLE (*A Constant Subscriber*).—Your plants are each worth about 5s.

CZAR RUSSIAN VIOLET.—Several applications have been made to us for information where this variety can be purchased; reference to our advertising columns of this and last week will supply the desired information.

PEA AND POTATO (*H. C.*).—We do not know the "Yorkshire Hero" Pea. "Rivers' Royal Ash-leaved" Potatoe is early, productive, and good.

PLAN OF GARDEN (*Rev. T. White*).—We know of no gardener who would give you a plan. You had better write to Mr. Chapman, Garden Designer, Richmond, Surrey.

STORING FILBERTS AND NUTS (*W. E.*).—Nothing more is required than to put them into stone jars, leaving all the husks on, and placing the jars in a cool cellar. If the cellar is damp all the better.

PROPAGATING LOBELIA SPECTIOSA (*F. T. C.*).—We always propagate Lobelia from cuttings in preference to seed. You had better procure half a dozen plants of the true variety from some respectable nurseryman; from six good plants procured now and kept through the winter, you may easily propagate between the months of February and May 1,500 or 2,000 plants. To preserve plants through the winter the best plan is to strike some cuttings late in the spring, keep them in store pots till about this time, when they should be cut in closely and potted in large or small 60-pots. The potting-soil will be none the worse of being kept in a house, providing it is not kept too dry nor too wet. We should be glad if we could obtain from a rich pasture a few loads of the yellow-looking soil you name; if it is the kind we take it to be almost anything would grow in it. If the fibry part of it is used, when taking it from the pasture cut up the sods about 2 or 3 inches thick.

CUTTING DOWN PELARGONIUMS (*Agnes*).—The plants should be placed in a frame after they are cut down so that they may be easily sheltered from the rain, and exposed to the sun in fine weather. In about three weeks after they have been cut down they will have pushed out their young shoots. All the soil should then be shaken away from their roots; repot them in as small pots as it is possible to put them into, then place them in a frame, keeping them close for a few days till the roots have taken hold of the fresh soil; afterwards they should have all the air that can possibly be given them. When the young shoots have grown 3 or 4 inches long pinch out their tops early in February, and repot the plants, but they must not have too large a shift at once; it is better to pot them two or three times than to overpot them the first time. In a fortnight or three weeks after each potting pinch out the top of every shoot; by these means you will keep your plants stocky, and they will produce double and treble the quantity of bloom in consequence. At all times see that they are kept free from green fly; when the slightest trace of this pest is seen fumigate with tobacco at once. In the spring months the green fly may be kept down by syringing the plants with quassia water. This is made by boiling the chips for ten minutes; 1 lb. of quassia chips will make five or six gallons of water very bitter. The chips should afterwards be put into a tub or cistern and fresh water poured on them, into which any plant much affected with green fly or any other insect may be dipped; but it is not safe to syringe the plants in the winter months, unless you have plenty of heat at command so that you can give abundance of air and heat to dry the foliage as quickly as possible. If the foliage is allowed to remain wet long in the winter it soon decays.

PLANTING STRAWBERRY RUNNERS (*Idem*).—The Strawberry plants will be more likely to produce a crop of fruit the same year if they are planted in February or March than they would if planted in the permanent beds in autumn. The plants when taken up from the nursery beds in the spring must not of course be pulled up to them and be carefully planted, with nice balls of soil attached to them and be carefully planted, making the hole for each plant large enough to put the plant in without cramping its roots. The soil should then be carefully scraped in around the plants with the hand. If the weather is mild at the time of planting the plants will be all the better of a little water. This should be poured on them with a rose and not from the spout. If the plants are mulched with a dry light substance, such as leaf-soil, directly after planting they will be all the better, as it will shelter them from the drying winds; care must, however, be taken that the hearts of the young plants are not covered up with the mulching. If the plants are managed as described above, and in the previous article, they will never suffer from their removal. Almost any kind of Strawberry will produce a good crop of fruit in the first year if managed in this way.

CATERPILLARS AND SLUGS (*Query*).—Hand-picking is the most effectual and cheapest mode of clearing Cabbages of caterpillars. Dusting the surface of the ground and the plants with slaked quicklime will destroy the slugs. If the soil is rather clayey, and has been so long neglected, pare and burn the top 6 inches of the whole surface. It will effectually destroy the seeds of weeds as well as vermin.

GERANIUM CUTTINGS (*K. C.*).—We have not the direction of "W. C." who had given the cuttings away.

SYRINGING WITH HOT SEWAGE (*X. Y.*).—The urine you mention must be diluted with at least five times its bulk of water before it is used.

EATABLE FUNGUSES (*F. L.*).—The work entitled "The Eatable Funguses of Great Britain," is published at our office. The Editors are the Editors of this Journal and others. Three Numbers have been published, and they may be had free by post from our office for forty postage stamps.

AZALEA VERSICHAFFELTI.—"J. P. F." wishes to know where he can purchase some for grafting on.

SLUGS ON LAWN (*A Long-standing Subscriber*).—Water it well with lime water during an evening when the slugs are on the surface. This, repeated two or three times at intervals of a day or two, will extirpate the marauders.

TOMATO CULTURE (*A Learner*).—Sow the seeds early in March in leamy soil, and place in a frame with a gentle heat, such as a Cucumber-frame, or one used for raising half-hardy annuals. When the plants appear and have made a pair of rough leaves, pot them off singly into small pots, retaining them in the frame a few days longer until they become established in the pots. For convenience they may be removed to a vinery or other house at work, and have a shift in about a fortnight into six-inch pots, using a compost of turfy loam with a little leaf mould added. Kept well supplied with water they will grow fast, and stiff and strong also if they have a due share of light and air. Towards the end of April or early in May, they should be hardened off by placing in a cold frame, and be planted out from the middle to the end of the month, in the intervals between fruit trees on south walls, which is the only aspect of any value for them. They should be well watered in dry weather, and have the shoots trained to the wall as they grow, and when the fruit shows they should be stopped at the joint above it. After a sufficient quantity of fruit is set, and, in fact, throughout the season, keep the shoots closely stopped to one joint above the fruit, and take off those shoots and leaves that cover the fruit so as to expose it as much as possible to the sun.

CLIMBER FOR NORTH END OF HOUSE (*H. N. Barnett*).—The Virginian Creeper (*Ampelopsis hederacea*), will do fairly on a north aspect, but it is deciduous. Ivy, being an evergreen, we should think preferable. Hedera Ragnieriana or Ragnier's Ivy with magnificent heart-shaped leaves would suit your purpose.



**THRIPS ON CARNATIONS—MILDEW ON ROSES (D. C.).**—Your only plan of removing thrips from your Carnation blooms will be to have a cap made to fit over the plants and resting on the ground. Fill the cap with tobacco smoke and allow it to remain on until the smoke vanishes. This, repeated once or twice, will generally clear them sufficiently. Your Roses, we should think from your description, are severely attacked with mildew. The cause is want of moisture at the root, and wetting the foliage in dry weather. The preventive is to keep well watered at the root, and to syringe over the leaves. The cure after disease gains possession is to dust the parts affected with flowers of sulphur, and to wash this off forty-eight hours after the application. Should any vestiges of mildew remain dust the parts affected as before, and syringe it off with a solution of Gishurst compound at the rate of 2 ozs. to the gallon of water. Black sulphur, or sulphur vivum, is the best. We have found that what will prove efficacious one time will not do so at another, but the Rev. Mr. Radclyffe's remedy we have found effectual when others have failed—viz., 2 ozs. of blue vitriol dissolved in a little hot water, then mixed with four gallons of cold water, and poured over the tree with a rose watering-pot so as to thoroughly wet every part. This is a certain remedy, and will root out the evil after it obtains firm hold, and so will sulphur; but Gishurst and lime water require to be applied in the early stages.

**PROPAGATING SINGLE AND DOUBLE WHITE BRUGMANSIA (A Lady Subscriber).**—Take the points of the shoots not flowering, and when about half ripe as they will be now, and with two or three joints in addition to the growing point, remove the leaves from the two lowest, and cut transversely below the lowest. Inserted in light soil with a large percentage of sand and plunged in a mild bottom heat, they will soon root. Another method is to take off the shoots when a few inches long with a little heel to them, and after removing the lowest pair of leaves to insert in sandy loam and plunge in a bottom heat of 75° or 80°. They may also be propagated from eyes or cuttings of the old wood, put in after the manner of Vine eyes and cuttings, a brisk bottom heat being necessary to plunge the pots in. February is the best month for this mode of propagation; May for the second; and July for the first, but now will do, or when the cuttings can be had.

**STUART'S BEAN TREE SEEDLING, WHEN WILL IT FLOWER? (Idem).**—If by Stuart's Bean tree, *Stuartia virginica* is meant, it will not flower for the next six years, and may just as likely be longer before it does so. If it be the one we mean, it is a deciduous tree with white flowers, and nearly if not quite hardy, quite as much so as Camellias of the hardier sorts. It will be best grown-on for about three years, and after that kept closely pinched-in and pot-bound so as to induce bloom. It requires a compost of turfy loam two-thirds, and sandy peat one-third, with a free admixture of sharp sand. Water freely when growing, gradually withholding moisture in autumn, and keeping just moist over the winter.

**CUTTING-IN OLEANDER—STOPPING CRASSULAS (Idem).**—The Oleander done blooming, or if it has not bloomed, may be cut-in to the lowest shoots, it being best to cut to shoots at this late season. The cutting-in will not then injure the bloom of next year; but if you cut-in closely so as to cause shoots to come from the old wood, they will not be sufficiently ripened to bloom well, if at all, another year. It would be better to defer the heading-down until May or June next year, if it be found necessary to cut so that no young shoots may be left. The plants will not be injured in the least by cutting-in. The Oleander, however, is a bad-habited plant at its best, it being very difficult to form it into a shapely specimen. By stopping the Crassula now you will put an end to the bloom of next year for the most part, and those shoots that bloom will be late. They will, however, make bushier plants for blooming the season after next, any shoots showing next year being stopped.

**SOIL FOR CALCEOLARIAS AND FUCSIAS (J. Noctas).**—Loam from rotted turves (cut 3 inches thick, laid up for twelve months in alternate layers with fresh manure, and turned over twice), chopped with a spade but not sifted, two-thirds; leaf mould, three-parts reduced, one-third; and one-sixth of river sand well mixed together. In speaking or writing of 13-inch pots or other sizes, the diameter at top within the pot is meant, and not the depth. If you will oblige us with a communication we shall then be able to decide what to do with it.

**FRUIT TREES FOR SOUTH-WEST-BY-SOUTH WALL (Bramley Oaks).**—Your wall will answer perfectly well for Peaches and Nectarines. Apricots on low walls do not do well from the necessity of pruning. If you have them the trees will need root-pruning or lifting to check their vigour and keep them fruitful. Peaches and Nectarines being what you chiefly wish, we will say ten of each at 20 feet apart, the first tree at 10 feet from the end of the wall. *Peaches*:—One Early York, one Early Grosse Mignonne, one Grosse Mignonne, one Royal George, one Noblesse, one Barrington, and one Walburton Admirable, the seven succeeding each other. *Nectarines*:—One Elruge, one Pitmaston Orange, and one Violette Hative. If Apricots are wanted, then you will have one Royal in place of Walburton Admirable Peach, and one Moorpark in place of Pitmaston Orange Nectarine. Copings have been advocated, but we find the trees are healthier, the fruit as plentiful, and equally fine on uncoped walls as on those whose coping projects beyond the wall. They are unnecessary, and in our case worse than useless, for they are injurious. We have a splendid crop on our Peaches this year on the south walls, and they are fully better where the wall is low (8 feet as in your case), than on the general walls, which are 12 feet. Our soil is light and gravelly, the reverse of a good Peach soil, and we find all they want in such land is to keep the roots near the surface and out of the gravel, or from going deep into it, liberal dressings of manure, syringing the trees in dry weather to keep down red spider, and copious supplies of water, in addition, to keep mildew under. When the roots penetrate deep into the gravel, the trees become stunted in growth, bear little, and are much affected with mildew, and the points of the shoots constantly die back in winter. Those having trees in this condition should take them up just when the leaves fall (it does not matter how old the trees are), and plant again with the roots about 6 inches below the surface, in the top spit of a pasture if it can be had, and in the year afterwards there will be more fruit than in the preceding ten years. We mention this for the benefit of those having Peaches on walls, and who cannot induce them to bear fruit plentifully and with certainty, and especially for those having a light gravelly soil to contend with.—G. A.

**FOUR-LEAVED CLOVER (J. H. T.).**—It is only a sport, and a rare one, of the Common Clover. When found by the peasantry in some parts of Ireland and Scotland it is used by them as a charm. The only English name we know of *Viscaria oculata* is "Dark-eyed Rock Lychnis."

**ERECTING VINERIES AND PIERING FOR (T. E.).**—If you want a house cheap at first cost, procure one on the orchard or Sir Joseph Paxton system; if you want one to be lasting, that will cost little or nothing for annual repairs, and which will always look nice and light, get one of Mr. Beard's—see last column of "Doings of the Week" a fortnight ago. It would not be fair for us to recommend builders. You will not err if you employ such as advertise with us, but make all sure beforehand, and that makes the best friends. To have Grapes in July you would need about 240 feet of four-inch piping. If you want them in May and June you had better have from 350 to 400 feet of piping. The greenhouse would require 200 feet of piping, and more if you wished the heat in cold weather to be from 40° to 45° and onwards.

**VARIOUS (Peepy).**—You would see that your case was mostly met in our last answer. A small boiler would have suited, and the expense at 9d. to 1s. per foot for piping would not be great. A brick Arnott's stove would answer well enough fitted either in the house or the shed behind, and the top could easily be turned into a propagating-box. A portable iron one you can carry out in summer. We think either would keep out the frost. The frigidome covering, however, would be useful on the roof and ends, and would do for shade in summer. But if you could do without the covering in winter, a little whitening in milk painted once over the glass would give you shade enough in summer. A couple of Vines on the roof, with greenhouse treatment, will not hurt the plants below. Of course if you covered the roof the plants would suffer. From one or two stems of Vines planted outside, and taken in through the front wall, we still think you will have more success than from Vines in pots, but try the pots by all means if you like that plan best. The glass roof will be a great addition to your porch. We admire your arrangements as to windows and boxes. As evergreens we would advise *Acacia armata* and *Iophanta*, and, as a sub-evergreen, *Passiflora corallæa*. Your little propagating-boxes, &c., will do better if the top is not hinged, but merely laid on. We like to turn them over, which sweetens the air and presents a dry glass to the plants and cuttings, and saves all wiping of the glass.

**BLISTERED PEAR AND PLUM LEAVES (O. d. Sons).**—The brown blisters on the leaves are caused by little caterpillars the larvae of a beautiful little moth, of which a coloured drawing is in the now-defunct "Gardeners Magazine of Botany," and where Professor Westwood thus described it:—"The moth measures about a quarter of an inch in the expansion of the fore wings, which are of a glossy silvery white colour, the terminal portion being orange with white fringe, but varied on the fore margin near the tip with two white triangular spots, edged with black lines, and with a trident-like black mark at the tip, and with the inner margin terminated by a black spot glossed with purple; the hind wings are silvery white, with long fringe. The history of this species, (under the name of *Tinea Clerckella*, but now called *Argyrotyges scitella*), was first made known by the late Mr. Knight. The perfect insect generally appears at the end of May, when the female deposits her eggs on the under surface of the leaves, the young larvae penetrating the under cuticle, and feeding on the parenchyma, leaving the two surfaces of the leaf untouched, and thus forming large oval or rounded patches, several of which often unite together, and thus the greater part of the leaf assumes a blistered appearance. Mr. Johnson states that the Chamontel is especially subject to the attacks of this larva, as he had observed a standard tree of this variety annually attacked, whilst a Swan's Egg, and an Easter Bergamot in the immediate vicinity were comparatively untouched. It is at the beginning of the autumn that the leaves are observed to be most affected by the ravages of these larvae, which are fleshy, yellowish-white, hairy, and with six pectoral, eight abdominal, and two anal feet depressed. When full grown the larva pierces the upper cuticle of the leaf, and comes into the open air, it then spins some longitudinal threads close together on the upper side of the leaf, and beneath these forms its cocoon, which Mr. Curtis describes as boat-shaped, with the keel upwards of a very close texture, and with a slit at each end, the cast-off larva skin being thrust through one of these slits, and the moth escaping by the other. Sometimes these insects abound to such an extent as seriously to affect the growth of the trees, and the size and flavour of the fruit; indeed, Mr. Knight's Pear trees were so much injured that he at one time resolved to remove them. The chief remedy for preventing the mischief caused by this species seems to be the picking off the blistered leaves before the larvae have left them, or by sharply pinching with the fingers the blistered parts, in the case of small and valuable trees. The collecting, also, of fallen leaves at the close of the autumn is serviceable, as the chrysalides will thus be destroyed, and the propagation of the species in the following spring prevented."

**BEDDING GERANIUMS BLOOMING INDIFFERENTLY (An Old Subscriber).**—We think, as your Geraniums make good growth and but little bloom, that the soil is too rich. Either the soil is too rich or the plants are planted too closely and watered too freely. Your remedy will be to make the soil less rich; add nothing to it at the winter dressing in the shape of manure or leaf-mould, unless the soil is heavy, when a dressing of sandy loam would be advisable. If the soil is very rich, and naturally moist or heavy, the plants would do better as to flowering if plunged in their pots so as to cover the rim three-quarters of an inch to an inch deep; this will check their tendency to produce foliage and cause them to bloom more freely. Pauch is a strong grower at its best, but free-blooming generally; the others named are free-blooming generally. Stella is the very best dark scarlet bedding Geranium. We have it edged with a dwarf variegated Grass (*Dactylis glomerata elegantissima*), and the bed is indeed gorgeous. Lord Palmerston, another of the Nosegay section with crimson scarlet flowers and a good truss, we think inferior to Stella as a bedder, though fine for pot culture. Cybister is a superior bedding variety. Paul l'Abbé is a white Zonale kind, good for bedding, but does not stand sun and rain better than Madame Vaucher. A good pure white Geranium that will endure sun and wet is much wanted for bedding. Diadematum, when it can be had true, and that is Beaton's variety, is a very free-blooming bedding Geranium with rose-coloured flowers.

**STORING FRUIT (L. T. W.).**—We shall publish some general hints on the subject before the time arrives for storing fruit.

**CRATEGUS PRUNIFOLIA VARIEGATA (J. Major d. Sons).**—The variegation is well marked and very pretty, and the colour is really golden and not that sickly hue too frequently met with in so-called golden plants.

**ROSE GROWER (P.).**—You will be quite safe if you give the order to the florist you name.

**ONION GRUB (H. A. F.).**—There is no cure for this. See what we said at page 85 of our Number published on August 1st about prevention.



**PRIVET FOR A HEDGE UNDER TREES** (*A Subscriber*).—Neither the leaves nor fruit are injurious to cattle. We have a hedge of it between a plantation and a park to which sheep, cows, and horses have access, and we never knew them eat either the leaves or fruit, or if they did they were not injured by them. Birds eat the berries, particularly the bullfinch, and the leaves have an astringent bitter taste, and are sometimes used along with the flowers in the form of decoction for sore throat and scorbutic ulceration of the mouth. Privet does much better than Quicks under the shade of trees, but is somewhat difficult to establish after the trees are grown up. We planted it and Hollies to thicken a Thora hedge under trees, and the Hollies, if anything, had the best of it, but are much slower-growing than Privet.

**WINTERING COLEUS VERSCHAFFELTI, SOLANUM MARGINATUM, AND WIGANDIA CARACASANA** (*idem*).—By withholding water now from *Coleus Verschaefelti* the shoots would become harder or less gross, and not so liable, therefore, to suffer from damp in winter. It should not be suffered to become sodry as to cause the leaves to fall and the shoots to flag and shrivel. To keep it safely it requires a warm greenhouse. *Solanum marginatum* is a half-shrubby perennial. *Wigandia caracasana* is also a perennial. They should be taken up towards the end of September, or before frost, potted, and kept in a greenhouse with no more water than is sufficient to keep them alive. After February they should be encouraged so as to secure free growth, and have it well hardened off before planting out early in June.

**FERNERY SHADING** (*W. H. Alger*).—Glass that can be seen through will not obstruct the sun's rays, and will, in fact, be no shade. Coloured glass will be sufficient shade; but as this is what you especially wish to avoid, a thin blind to draw up and let down would serve your purpose. It is only when the sun shines powerfully that the blind will be required, and that will equally be the time when the window could not be seen through, so that we do not see any objection to such a blind. But we may have misunderstood your case; if so, write us again.

**VINE LEAVES SHRIVELLED—BORDER-MAKING** (*S. T.*).—The leaves exhibit those appearances found on Vines in a cold wet border with the roots deep, and are besides scorched by the sun acting powerfully on the leaves whilst wet, probably from the deposition of moisture on them during the night, and not giving air sufficiently early to dry them before the sun strikes powerfully on the house. The paragraph alluded to, and quoted

from "Sanders on the Vine," refers to the particular houses of his planning and not to vineries generally. It is necessary and important, for the houses alluded to, that the border be exactly on a level with the interior flooring, as will be found on referring to the plans in the work. It is of no import, however, when the roots are wholly outside, and it would be better if the borders of all vineries were made not only level with the floor of the house but at least half its depth above the surrounding ground level, especially where the subsoil is wet and heavy. By all means raise the borders, and have nothing upon them that roots deeply, much less *Rhubarb*, &c.

**CALIFORNIAN PUMP.**—*West Croydon* wishes to know if any one has tried this pump, and if so, would he give some information about it? We never heard of a pump so named.

**NAMES OF INSECTS.**—*Dr. Stuart* is quite correct in supposing the insects which have destroyed the foliage of his Jargonelle Pear to be the larvae of the *Tenthredo Cerasi* of Linnaeus, or the *Selandria Ethiops* of Fabricius and recent authors. The larvae, called commonly "Slimy Grub," eat the surface of the leaves as well as the parenchyma. They are produced from eggs deposited by the black-winged Sawflies in June and July. Dusting with lime kills them. (*Fulham, S.W.*).—The earwigs are produced from eggs, which are deposited in the spring by the females. The young ones exactly resemble their parents, except in wanting the wings and short wing-covers. The long thin worms which you have found within them, are parasites of the genus *Gordius*, of not uncommon occurrence in the bodies of these insects.—*W.*

**NAMES OF FRUIT** (*A Constant Reader, Sydenham*).—Plums:—1, Jefferson; 2, Kirtle's; 3, Early Orleans; 4, Royal Dauphine; 5, Downton Imperatrice. (*C. R.*).—Apples:—1, Scarlet Nonpareil; 2, Minchall Crab; 3, Lord Suffield; 4, Fearn's Pippin; 6, Golden Harvey.

**NAMES OF PLANTS** (*C. P.*).—1, *Pteris cretica albo-lineata*; 2, too imperfect, probably young and very weak *Pteris cretica*; 3, *Doodia caudata*. All three will do in a Fern case. If infested with brown scale they should be cleaned before introducing them among other plants. (*A. S. P.*).—1, *Todea hymenophylloides*, often called *Leptopteris* and *Todea pelliculata*; 2, *Dicksonia squarrosa*; 3, *Polystichum venustum*; 4, *Asplenium Coleoso*. (*A. B.*).—1, *Paulownia imperialis*; 2, *Enonymus japonicus*; 3, *Quercus ilex*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending August 26th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 20	29.927	29.803	76	51	64	62	S.W.	.26	Fine; very fine; mild at night.
Mon. . . 21	29.714	29.706	75	50	64½	62	W.	.00	Fine, with clouds; very fine, light clouds; fine throughout.
Tues. . . 22	29.686	29.603	79	46	65	62½	S.W.	.00	Very fine; hot; fine at night.
Wed. . . 23	29.512	29.424	64	54	64½	62½	E.	.82	Slight haze; overcast; constant heavy rain throughout.
Thurs. . 24	29.876	29.713	78	50	64½	62	W.	.00	Fine; clear and very fine; masses of white clouds; thunder; fine
Fri. . . 25	30.129	30.001	74	43	65	63	N.W.	.00	Light clouds and fine; very fine.
Sat. . . 26	30.229	30.211	76	41	64	62½	E.	.00	Foggy; very fine throughout; cool at night.
Mean..	29.867	29.780	74.57	47.85	64.50	62.35	....	1.08	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### OUR DAILY FOOD.

THE food question is daily becoming more important, and spite of the reluctance there has always been to entertain poultry as being part of it, we cannot help thinking that eggs and birds must at last assume the importance that belongs to them. We can easily dismiss the former question by repeating the thrice-told tale—we import a million every day in the year, and yet have not enough of them to be within the reach of a cottager for a sick wife or child.

Every country but England has statistics of these things. It is known in France how many eggs and fowls are produced in each department, how many are consumed at home, how many are sent to the capital or other departments, how many are exported. The result is that France receives from us annually millions of pounds sterling. They encourage and increase the amount; we care not for these things. We dabble at times with cookery, and tell of the good things that may be made with even an old hen, and we believe in many a house in the country and suburbs of London, at a time when some look askew at beef on account of the murrain, and "Paterfamilias" speaks ominously about the price of mutton, and seems to think that we consume too much animal food, the refuse of the poultry stock may be turned to good account. We have poultry companies and hatching machines (limited); they enjoy but small public favour. People pooh-pooh poultry, but things in connection with it are heaving themselves up, and will at last assume proportions that will intrude themselves on public notice, and, like the tax-gatherer, insist on being seen. Abstinence sharpens the wit as well as the appetite, and the present price of meat may make some look pleasantly at the rather

coarse fowl that was rejected not long ago; and in the absence of the lump of meat, the system that by plain roasting and boiling reduces that on a fowl to the smallest possible amount, may be exploded for judicious and delicate cookery, which makes that which would be a hard or dry fowl the foundation of a delicious and satisfying family dish.

### EXHIBITING POULTRY UNSHELTERED.

WILL you allow me to draw the attention of the managing committees of many of our poultry shows to a most serious drawback to success, both as regards the permanency of such meetings, and also the amount of present entries likely to be secured, from the reprehensible practice of placing the competing birds fully exposed to all the vicissitudes of the weather? This really objectionable plan has, to my own personal knowledge, been a chief cause of the failure of many an exhibition that otherwise might at the present hour have been a well-established institution. Of course it is quite impossible for any one with certainty to predict the kind of weather that may arise during the continuance of a show, and it is well known that the greater portion of our exhibition birds are so carefully tended when at home as to render them even more susceptible to the influence of sudden atmospherical changes than birds would be if taken direct from the more hardy treatment of a farmyard.

The practice now alluded to occurs chiefly, I am glad to say, in the case of poultry and Pigeons exhibited in connection with agricultural societies; but as these combined meetings of cattle and poultry are annually increasing in numbers, a few brief hints to forewarn may not be out of season, more particularly as a goodly number of such meetings are now near at hand. Among many objections that might be named, a few of the principal ones are these.



The foreknowledge that any show of poultry will not take place under cover prevents many of the best and most valued specimens being entered at all, and this of necessity detracts materially from the interest of the exhibition.

In case of rain not only are the birds seriously injured for exhibition at all future meetings, but also, in the event of absolute saturation of the plumage, as I have myself again and again witnessed, the awards made under such adverse circumstances amount rather to a guesswork than otherwise, as perfection of combs and general outline are the only data a judge has then at command; for the all-important point, plumage, is temporarily placed beyond discrimination, and arbitrators are compelled to satisfy themselves by simply doing the best they can under so inextricable a difficulty.

Nor does the damage arise exclusively from rain, for long exposure to a burning sunshine enures as irremediable an injury to birds, if subjected continuously to its influences, as does the most boisterous weather. In proof: No doubt many of the readers of THE COTTAGE GARDENER will remember the truly magnificent Cochins cock so frequently and so continuously shown by the late Mr. Guldard, of Aerigg End, near Kendal. It was apparently a fowl of extraordinarily strong constitution, and the most protracted show, to use Mr. G.'s own words, "never seemed too long for him, nor was he ever exhibited without prizetaking." In fact, it was, I admit, one of the very best Buffs I ever yet saw, being a pure even gold colour throughout, with comb, face, and wattles brilliant as coral. At the last Anerley Show, this valuable specimen succumbed to intense sunlight, and that alone. After this exposure the comb suddenly blackened, the cock became inert, and altogether listless, and shortly afterwards fell down dead, to the great annoyance and irreparable loss of its owner. Nor was this the only bird by several, whose deaths took place shortly after this one exhibition. It is beyond question that birds, however much they may voluntarily enjoy bright weather, cannot endure constant exposure to an almost burning sun. It absolutely kills them, and the space of time requisite is but a brief one. These results can never ensue in cases where adequate protection is afforded to the imprisoned birds, for then every one connected with the exhibition has at least the honest consolation, that all things necessary to ensure success were provided, and even should the mishap of unpleasant weather ensue, still a Committee may reasonably calculate on at least a portion of those visitors, who, if the whole affair is "open to the sky," naturally abstain from coming at all.

I should not have intruded this long letter upon your space, but even this day two different amateurs have solicited me to give my own opinions on this important subject in connection with poultry exhibitions, supposing "it might carry more weight than their own," when labouring under the vexation of seeing several pens of their own expensive poultry utterly ruined, if not killed outright, by the incessant rains during a recent exhibition. I will merely add in conclusion, that simple justice to the exhibitors who confide expensive poultry to any committee's safe keeping, demands a suitable protection for the birds so sent, quite independently of the obvious cruelty to the fowls (or Pigeons, as the case may be), if a contrary course, so "penny wise, and pound foolish," is pursued.—EDWARD HEWITT, *Eden Cottage Sparkbrook, near Birmingham.*

[Until we received this communication we were not aware that any Committee had been so thoughtless and barbarous as to have the poultry entrusted to them exposed to all the vicissitudes of our climate. No one having a pen of birds would allow them to be exhibited in this manner, unless he was entirely neglectful of his own interests, and regardless of his bird's sufferings.—Eus.]

## ROYAL AGRICULTURAL SOCIETY OF IRELAND'S EXHIBITION.

This took place on the 17th instant at Clonmel. The show of poultry was tolerably good in some of the sections. Mr. Williams had the medal as the exhibitor who won the greatest number of prizes, and Mr. Boyle and Mr. J. Hyland came off very well also. Mr. W. Magrath, Blesinton, won with his Silver-Grey Dorking cockerel and couple of pullets, in which section Sir Robert Paul, or, rather, his young son, who has in this way begun his apprenticeship as an exhibitor, was also successful, both of the winning lots being nice fowls.

DORKING (Silver-Grey).—First and Second, R. P. Williams, Glaslin, Clontarf. Highly Commended, J. C. Cooper. *Chickens*.—First, W. Magrath, Blesinton. Second, Sir R. Paul, Bart., Waterford.

SPANISH.—First, R. P. Williams. Second, Miss F. E. Prittie, Oakville,

Clonmel. [*Chickens*.—First, R. P. Williams. Second, R. W. Boyle, Wicklow.

BRAHMA POOTRA.—First and Second, R. W. Boyle. *Chickens*.—First and Second, R. W. Boyle.

COCHIN-CHINA.—First and Second, R. P. Williams.

TURKEYS.—First, J. Hyland, Dublin. Second, S. Perry, Clonmel. *Poults*.—First, Miss A. Hyland, Dublin. Second, J. T. Abbott, Cahir.

GEES.—First, R. W. Boyle. Second, S. Perry. Third, J. C. Cooper, Limerick.

DUCKS (Aylesbury).—First, R. P. Williams. Second, R. W. Boyle. Highly Commended, R. P. Williams.

DUCKS (Rouen).—First and Second, R. P. Williams.

To the exhibitor who has won the greatest number of prizes in this class, the medal.—R. P. Williams.

JUDGES.—Messrs. Darker and Stanton.—(*Irish Farmers' Gazette*.)

## FULFORD POULTRY SHOW.

THE second annual Exhibition of poultry and Pigeons in connection with the Floral and Horticultural Society, was held on the 16th inst. The village of Fulford is of easy access from the city of York, and a numerous and highly respectable company were present on the occasion. There was a considerable increase in the exhibition of poultry this year; and the Pigeons, though not numerous, contained some very good specimens. The following is the list of the awards:—

SPANISH.—First, W. Massey, Fulford. Second, Miss Hustler, Stillingfleet.

DORKING.—First, T. Mason, Green Hammerton. Second, Miss Hustler. COCHIN-CHINA.—First, and extra for the best pen of poultry, W. Massey. Second, J. Braddock, York.

GAME.—Prize, J. Barker, Dunnington.

HAMBURGH (Golden-spangled or Pencilled).—First, J. Darbyshire, Green Hammerton. Second, G. Hutchinson, York.

HAMBURGH (Silver-spangled or Pencilled).—First, — Cumberland, York. Second, H. Steward, Bishopthorpe.

ANY OTHER BREED EXCEPT BANTAMS.—First, Mrs. Carey, Heslington. Second, J. Warnford, Dunnington.

CHICKENS (Any Breed).—First, W. Massey. Second, Mrs. E. Ledgard, Poppleton.

BANTAMS.—First, Miss Hustler. Second, J. Barker.

SELLING CLASS.—First, J. Barker. Second, — Cumberland.

GEES.—First, A. S. Perfect, Fulford. Second, Mrs. Ledgard.

TURKEY.—Prize, A. S. Perfect.

DUCKS.—First, J. Elsworth, Whitley. Second, A. S. Perfect.

PIGEONS.—Carriers.—First, J. Thackray, York. Second, W. Massey.

Tumbler.—First, J. Thackray. Second, A. Cattley, York. *Pouters*.—Prize, E. Wilson. *Jacobins*.—First and Second, W. Massey. *Fantails*.—First, J. Thackray. Second, A. Cattley. *Dragons*.—First, W. Massey. Second, J. Thackray. *Any other Variety*.—First, W. Massey (Earbs). Second, J. Thackray (Swallows).

JUDGE.—Mr. Anton, York.

## UTTOXETER POULTRY SHOW.

(From a Correspondent.)

THE Uttoxeter Poultry Show, in conjunction with the Annual Floral and Horticultural Exhibition, was held on Friday, the 18th inst., and comprised a choice collection of different breeds of poultry from all parts of England. Great care was taken by the Committee that satisfaction should be given to exhibitors, and pens of ample dimensions were provided for the exhibition of their different specimens, both great and small birds alike occupying pens 3 feet wide by 2 feet 6 inches high, faced with two-inch wire netting, an arrangement which was highly eulogized by those exhibitors who were present. These pens, we may add, were especially built for the occasion, and are the property of the Society, and will be used at future exhibitions, when more classes will be thrown open and higher prizes given for competition. On the part of the Committee, neither pains nor expense will be spared to place the show for poultry on a first-class footing, and to render it acceptable to intending future exhibitors, which they hope will secure a continuance of their valued support. Considering it was a new thing in this place, it was a decided success; the birds sent for competition were first-class.

SPANISH.—First, W. Bayliss, Walsall. Second, G. Walker, Sandon. Highly Commended, F. Bagshaw, Uttoxeter. Commended, E. J. Blair, Uttoxeter. *Chickens*.—Prize, E. J. Blair, Uttoxeter.

DORKING.—First, Sir St. G. Gore, Bart., Wirksworth. Second, F. Bagshaw, Uttoxeter. *Chickens* (any variety).—First, Sir St. G. Gore, Bart., Wirksworth. Second, J. McConnell, Lime Crofts.

COCHIN CHINA.—First, J. Stephens, Walsall. Second, J. Bakewell, jun., Uttoxeter. Highly Commended, Rev. S. C. Hamerton, Stafford. *Chickens*.—Prize, F. Bagshaw, Uttoxeter.

GAME (Duckwings and other Greys and Blues).—First, Sir St. G. Gore, Bart., Wirksworth. Second, W. F. Taylor, Doveridge Hall.

GAME (Black and Brown-breasted Reds).—First, W. S. Bagshaw, Uttoxeter. Second, Mrs. Hay, Sudbury.

GAME (Any variety).—Prize, Sir St. G. Gore, Bart., Wirksworth. *Chickens*.—First and Second, J. Bakewell, Draycott. Highly Commended, Mrs. Hay, Sudbury; C. Minors, Sudbury; Sir St. G. Gore, Bart., Wirksworth; T. Lowndes, Cheadle; W. F. Taylor, Doveridge Hall.

HAMBURGH (Golden-pencilled).—First, The Hon. T. W. Fitzwilliam, Rotherham. Second, E. Tate, Leeds. Highly Commended, Sir St. G. Gore, Bart., Wirksworth.

HAMBURGH (Silver-pencilled).—First, A. K. Wood, Kendal. Second, C. Minors, Sudbury. Highly Commended, E. Bell, Burton.

HAMBURGH (Golden-spangled).—First, A. K. Wood, Kendal. Second, R. Tate, Leeds.



**HAMBURGH** (Silver-spangled).—First, A. K. Wood, Kendal. Second, Sir St. G. Gore, Bart., Wirksworth.  
**POLANDS**.—Prize, S. Mills, Walsall.  
**HAMBURGH CHICKENS** (Any variety).—First and Highly Commended, C. Minors, Sudbury. Second, S. Finney, Ashbourn. Highly Commended, H. Bagnshaw, Uttoxeter.  
**BANTAMS** (Black or White).—First, Sir St. G. Gore, Bart., Wirksworth. Second, — Lasbrey.  
**BANTAMS** (Any variety).—First, Sir St. G. Gore, Bart., Wirksworth. Second, W. F. Entwisle, Yorkshire.  
**DUCKS** (Aylesbury).—Prize, Sir St. G. Gore, Bart., Wirksworth.  
**DUCKS** (Rouen).—First, Sir St. G. Gore, Bart., Wirksworth. Second, J. Bakewell, Uttoxeter.  
**DUCKS** (Any variety).—First, Sir St. G. Gore, Bart., Wirksworth. Second, Mrs. Wolferstan, Tamworth.  
**GEESSE**.—First, F. E. Richardson, Bramshall. Second, J. Bakewell, jun., Uttoxeter. Extra Prize, W. A. Rawlins, Stramshall (Chinese).  
**TURKEYS**.—First and Second, F. E. Richardson, Bramshall.  
**GUINEA FOWLS**.—Prize, J. Bakewell, jun., Uttoxeter.

#### SWEETSTAKES FOR SINGLE COCKS.

**Game**.—First, J. Bakewell, Draycott. Second, Mrs. Hay, Sudbury.  
**Spanish**.—Prize, W. Newman, Walsall. **Dorking**.—Prize, C. Minors, Sudbury. **Game Bantams**.—First, Hon. T. W. Fitzwilliam, Rotherham. Second, J. Bakewell, Draycott.

### MOTTRAM POULTRY SHOW.

THE first show of Poultry, Pigeons, &c., was held at Mottram, on Monday, the 21st of August, in the large room and yard of the Victoria Works, which were well adapted for the purpose. The prizes were not very large, but they brought together 130 pens, which was thought very good for a country village, and there were some good birds shown. The exhibition was acknowledged to be a success, and the promoters hope next year to add largely to the prize list.

The following awards were made:—

**DOBKINGS** (Any variety).—Prize, C. W. Brierley, Middleton.  
**SPANISH**.—First, W. H. Gaskell, Matley. Second, S. and R. Ashton, Mottram. **Chickens**.—First and Second, S. and R. Ashton, Mottram.  
**COCHINS**.—First, C. W. Brierley, Middleton. Second, T. Dearnley, Hadfield. **Chickens**.—First, A. Bamford, Middleton. Second, A. Kidd, Hadfield.  
**GAME** (Black-breasted and other Reds).—First and Second, C. W. Brierley, Middleton. **Chickens**.—First, J. Ashton, Mottram. Second, Messrs. S. and R. Ashton, Mottram.  
**GAME** (Any other variety).—First, C. W. Brierley, Middleton. Second, W. Reddish, Mottram.  
**HAMBURGHS** (Gold-pencilled).—First, T. Walker, jun., Denton, near Manchester. Second, T. Wrigley, jun., Middleton. **Chickens**.—First and Second, T. Wrigley, jun., Middleton.  
**HAMBURGHS** (Silver-pencilled).—First, A. K. Wood, Kendal. Second, Messrs. S. and R. Ashton, Mottram. **Chickens**.—First, E. Collinge, Middleton. Second, Messrs. S. and R. Ashton, Mottram.  
**HAMBURGHS** (Gold-spangled).—First, J. Roe, Hadfield. Second, A. K. Wood, Kendal. **Chickens**.—First, J. Bancroft, jun., Ashton. Second, J. Roe, Hadfield.  
**HAMBURGHS** (Silver-spangled).—First, A. K. Wood, Kendal. Second, Messrs. T. M. and J. Ashton, Mottram. **Chickens**.—First and Premium Prize, best pen in the show, E. Collinge, Middleton. Second, Messrs. T. M. and J. Ashton, Mottram.  
**POLANDS** (Any variety).—First, C. W. Brierley, Middleton. Second, Messrs. S. and R. Ashton, Mottram. **Chickens**.—First and Second, Messrs. S. and R. Ashton, Mottram.  
**ANY VARIETY**.—First, C. W. Brierley, Middleton. Second, W. McMillon, Glossop. **Chickens**.—First, Messrs. T. M. and J. Ashton, Mottram. Second, Messrs. S. and R. Ashton, Mottram.  
**BANTAMS** (Game).—First and Second, C. W. Brierley, Middleton.  
**BANTAMS** (Any variety).—First and Second, C. W. Brierley, Middleton.  
**DUCKS** (Aylesbury).—Prize, Messrs. S. and R. Ashton, Mottram.  
**DUCKS** (Any variety).—First, C. W. Brierley, Middleton. Second, J. Nelson, Manchester (Rouen).  
**GEESSE**.—Prize, Messrs. S. and R. Ashton, Mottram.  
**TURKEYS**.—First, C. W. Brierley, Middleton. Second, Messrs. S. and R. Ashton, Mottram.  
**PIGEONS**.—**Carriers**.—First, C. M. Royds, Rochdale. Second, H. Roberts, Mottram. **Pouters**.—First, C. M. Royds, Rochdale. Second, W. H. Gaskell, Mottram. **Dragoons**.—First, N. Tinker, Mottram. Second, C. M. Royds, Rochdale. **Jacobins**.—First, C. M. Royds, Rochdale. Second, W. Booth, Mottram. **Almond Tumblers**.—First, T. Wilkinson, Saleybridge. Second, Miss J. E. Bancroft, Mottram. **Owls**.—First, C. M. Royds, Rochdale. Second, Miss J. E. Bancroft, Mottram. **Barbs**.—First, N. Tinker, Mottram. Second, W. H. Gaskell, Mottram. *Any new or distinct Variety*.—First, J. Midwood, Saleybridge. Second, T. Walker, Denton.

Mr. James Dixon, Bradford, officiated as Judge.

### DEANE POULTRY SHOW.

THIS took place on the 23rd inst., when the following awards were made:—

**SPANISH**.—First and Second, N. Cook, Chowbent.  
**DORKING**.—First and Second, S. Farrington, Astley.  
**GAME COCK**.—First and Second, J. Wood, Moat House, Haigh. Highly Commended, J. Turner, Radcliffe.  
**GAME**.—First, J. Wood, Haigh. Second, J. Turner, Radcliffe.  
**COCHIN-CHINA**.—First, E. Smith, Middleton. Second, A. Bamford, Tenge Lane, near Middleton.  
**HAMBURGH** (Golden-pencilled).—First, T. Wrigley, jun., Tenge, near Middleton. Second, N. Marlor, Denton, near Manchester. Highly Commended, J. Turner, Radcliffe.  
**HAMBURGH** (Silver-pencilled).—First, J. Platt, Dean. Second, A. K. Wood, Burneside, Kendal. Highly Commended, Mrs. Price, Halliwell.

**HAMBURGH** (Golden-spangled).—First, N. Marlor, Denton. Second, W. Parr, Patricroft. Highly Commended, A. K. Wood.  
**HAMBURGH** (Silver-spangled).—First, R. Walker, Westhoughton. Second, A. K. Wood.

**POLANDS**.—First and Second, S. Farrington, Chat Moss, Astley.  
**ANY OTHER VARIETY**.—Prize, N. Cook, Chowbent.  
**GAME BANTAMS**.—First, F. Abbott, Wallsuches, Horwich. Second, J. Turner, Radcliffe. Highly Commended, M. Kay, Horwich.  
**ANY OTHER VARIETY**.—First, S. Farrington. Second, C. W. Brierley, Rhodes House, Middleton. Highly Commended, N. Platt, Dean.  
**DUCKS** (Aylesbury).—Prize, E. Leech, Greave House, Rochdale.  
**DUCKS** (Rouen).—First, T. Wakefield, Golborne. Second, W. Parr, Patricroft. Highly Commended, E. Leech, Rochdale.  
**DUCKS** (Any other variety).—Prize, S. Farrington, Astley.  
**GEESSE**.—First, L. Walls, Westhoughton. Second, W. Green, Wharton Hall. Highly Commended, J. B. K. Grover, Worsley.  
**TURKEYS**.—J. Wood, Brinscall Hall Chorley. Second, J. Wood, Haigh, Cambridge.  
**PIGEONS**.—**Carriers**.—First, C. & E. Royds, Rochdale. Second, A. Lowe, Over Hulton. **Tumblers**.—First, H. Yardley, Birmingham. **Owls**.—First, C. & E. Royds, Second D. Bromiley, Over Hulton. **Croppers**.—First, H. Yardley. Second, C. & E. Royds. **Fantails**.—First, S. Farrington, Astley. Second, G. Caldwell, Westhoughton. **Dragons**.—First and Second, D. Bromiley, Over Hulton. **Antwerps**.—First, W. Markland, Dean. Second, H. Yardley. *Any other Variety*.—First and Second, D. Bromiley. *Extra Stock*.—First, W. Green, Wharton Hall. Second, W. Markland.

### PREVENTING BROOD IN SUPERS.

IN taking off both glass and bar-frame supers this summer I have found in them much brood, and in one glass super a number of dead drones on the bottom. In another glass there was an immense quantity of brood comb, but the bees were hatched. All this spoils the appearance of both supers and honey. Will you kindly tell me if this arises from the openings in the adapting-boards being cut too wide? Is a quarter of an inch the proper width to allow the worker bees to ascend into the supers without admitting the queen or the drones? I have had very great trouble this summer in inducing the bees to leave their supers at all, and there has been great commotion and fighting amongst them. I see in "our Journal" that it is recommended to put an empty box under the super you wish to remove. Should the box be put on the day before you wish to remove the super? Must the box be open top and bottom? or will it answer to lift up the super from the adapting-board and put the box upon it? Still it appears to me that the latter must be open top and bottom. I have two hives with ekes; ought I to remove these before winter, and when? The bees in these two hives have worked the comb to the floor-boards, I mean the full depth of the ekes.—J. W.

[We do not know how entirely to obviate breeding in supers and at the same time insure free access by the bees. It has been attempted by permitting communication only through a number of narrow apertures, three-sixteenths of an inch wide, and about 2 inches long, placed close together, and looking something like a miniature wooden gridiron, but we have never seen the plan tried. The empty box should be open at top and bottom, and should be interposed between the adapter and the stock-hive the day before the removal of the super, which should be taken off before the bees get fully to work the next morning, when it will be nearly deserted. We find it a very good plan to use two adapters, which much facilitates removal.

In this case the empty box should be inserted between them, the upper one being raised with the super, and the under one remaining on the hive. We should remove all ekes in October, shortening at the same time such combs as require it. This is readily done by first puffing a little smoke under the hive, and then turning it up and cutting off as much of the combs as may be necessary.]

### REMOVING SUPERS—PREVENTING SWARMING.

HAVING a very heavy super to remove from a Woodbury frame hive, I was in considerable difficulty as to the best and quickest plan of removing it and expelling the bees, till the communication of Mr. Bevan Fox so opportunely appeared in "our Journal" of August 1st; he there gives us the results of his experience in such a clear and conclusive manner that I determined to adopt his plan, in which I succeeded beyond my expectation. The super was a heavy one, weighing 5 lbs., and crowded with bees, and by adopting the driving system I got all the bees out, with the exception of about a dozen stragglers, in from fifteen to twenty minutes. As you have many inquiries as to the best plan of performing this operation I wish in gratitude, to Mr. S. B. Fox, and for the benefit of other amateurs like myself, to add my little testimony to the excel-



lence of his plan. If Mr. Fox could favour us with any plan equally efficacious in preventing swarming, I, for one, should be greatly obliged to him, as I find it is no trifling matter to remove a heavy super from an immensely strong stock and search the frames for royal cells, an operation which the bees resent as a most unwarrantable liberty; and I have found that with plenty of room in the super and a nadir 3 inches deep a swarm came off in the latter part of July, and was lost to the great annoyance of—G. L.

### TAKING HONEY FROM SUPERS.

A FRIEND of mine keeping bees took off a super a few days ago, and upturned it for the sake of letting the bees go about 4 yards from the hives, and on going to it in about four hours he found the bees had carried all the honey back into the hive, leaving the empty comb.—S. T.

[In removing supers the greatest care is always requisite to elude the vigilance of the bees, whether of the parent stock or of neighbouring hives, all being equally alert and active in "looting" on these occasions.]

### REMOVING BEES IN THE AUTUMN.

#### DRONE SLAUGHTER—SUCCESS OF SECOND SWARMS.

I CONSTANTLY read of the autumnal purchasing of stocks for the establishment of an apiary, but have failed to discover from any author which I have consulted the exact period of the autumn at which their removal should take place. Will you kindly inform me on this point? also the best plan for conveying the bees with their plant a distance of two miles, and should the removal take place by day or night? I suppose a strong early swarm of this year, with hive full of honey, would be preferable to a stock of last season which has been allowed to swarm. I have my choice of either.

The very gloomy and wet weather which we have had in Ireland since the middle of last month has completely put an end to the honey season here, and, with the exception of carrying on an unmerciful war against the drones, my bees have almost struck work entirely. I was surprised the other evening in walking among my hives, after one of the few fine days we have lately had, to discover on the ground not only a large number of slaughtered drones but also several drones in the grub state which had evidently been torn from their cells and forcibly ejected from the hive. Not being an apiarian of long standing this surprised me, but I remembered reading of the circumstance in "Goldsmith's Animated Nature," and on reference I found the following: he quotes from the authority of Reaumur—"Nay, the working bees will even kill such drones as are yet in the worm state in the cell, and eject their bodies from the hive among the general carnage."

For the information of those who are doubtful as to second swarms flourishing during winter I may add that I hived on the 28th of June last a small second swarm in a Scotch hive. At this moment it is not only crammed with honey but a small super also, and I do not think I ever saw a larger colony. It was under this hive that the circumstance I mentioned above occurred.—SQUIB, Co. Kildare.

[Stocks may be purchased and safely removed to a distance of not less than a mile and a half as soon as the evenings become chilly. After dusk they should be tied up in a coarse cloth of open texture (cheesecloth), and all egress being rendered impossible by a string tied tightly round the hive about 2 inches from the bottom, conveyed carefully to their destination. A swarm of this year would have the advantage of new comb, but might have a very old queen, whilst a stock which has swarmed this season must have a young queen but old comb. Both, therefore, have their advantages and disadvantages; and it is only by balancing these, aided by inspection and a knowledge of the history of each, that a judicious decision can be arrived at.]

### DRIVING AND UNITING BEES.

I HAVE three stocks of bees in common straw hives. I have this season had one swarm from each of them, which swarms were hived respectively in a Woodbury-hive, one of Gale's hives, and one of Neighbour's hives. I now wish to do away

with the old stocks entirely, but think I ought to save the bees. How could I best put them into the three new hives which are now occupied by the three swarms, which I suppose would be worth doing, so as to increase the numbers in these hives? —BRAMLEY OAKS.

[Drive the bees out of the old hives, and unite the inhabitants of each to the nearest swarm in the manner recommended in page 59 of the fifth edition of "Bee-keeping for the Many."]

### HONEY HARVEST NEAR STAFFORD.

#### DRONE BRED IN A ROYAL CELL—FERTILE WORKERS.

UP to the end of June the present was a splendid honey season in this neighbourhood. Very little has been collected since; many late swarms are even suffering from want of food. Swarms generally were not very early, I only heard of two or three in May. I only kept three stocks last winter, but they were three good ones. From these, besides several brood combs, I have had one natural swarm and 123 lbs. of honeycombs in supers. I also took a super, containing 75 lbs. of beautiful honeycombs, off a Woodbury frame-hive belonging to a lady neighbour. During the present showery weather I notice that Ligurian bees are more attentive than the common ones to borage and other garden flowers. I have quite recently had a royal cell tenanted by a drone, which came to maturity, and issued from the cell in the usual way. The case, however, was not similar to the very interesting one related by "A DEVONSHIRE BEE-KEEPER," there having been none but drone eggs in the hive; nor was it quite like those recorded by Huber, the egg being that of a fertile worker, and the royal cell being, I think, formed round it after it was laid, as is usual in compulsory queen-rearing. It came about in the following way:—On the 17th of July I examined a small artificial swarm to which I had given a brood comb on June 17th to raise a queen from. I found very few bees remaining, and no queen. Two out of their three combs had each a small patch of drone cells in its lower corner, and in one of these I thought I saw eggs, but owing to my having a bee-dress on, and to its being late in the evening, I could not be sure, so I cut a small piece off to examine afterwards by a better light. I found that it contained several eggs in each of the cells, some had as many as a dozen each. On the 26th I examined again, and found three royal cells formed on the drone-comb along the cut I had made on the 17th. One was sealed over, another had a good-sized grub, the third was not tenanted. I examined them frequently afterwards, and at last on the 10th of August I found the royal cell open at the end, and a fine young drone perambulating the comb. The grub had disappeared from the other cell, and there was no other drone in the hive. Very few of the eggs had hatched, and those few were not in a forward state. I found that egg-laying had continued in the patches of drone-comb, but that none had been laid in worker cells. That they were the produce of fertile workers I have no doubt; it is not likely that I so often overlooked a queen among so few bees; while the formation of royal cells, and the continuance of egg-laying afterwards, are, to my mind at least, conclusive evidence.—JOHN P. EDWARDS, *Shirleywich, near Stafford.*

### OUR LETTER BOX.

SPANISH COCK'S FACE BECOME PARTLY RED (*Typo*).—It is not uncommon for a good Spanish cock to show red in his face when moulting. If formerly his face was entirely white, it will be so again, but you must not deceive yourself. If his face was not white before, it will not be so when he has done moulting. The fowls you mention are Black Hamburgs.

POULTRY IN A TOWN (*Old Subscriber*).—All your wants will be attained by your keeping either Cochins or the Brahma Pouter fowls. Both will thrive in confined spaces, both are good layers, and will furnish a meal.

POULTRY BASKET (*H. J. C.*).—There can be no doubt that Mr. Bartlett should have long since had a final settlement with you, but it is not a transaction entitled to notice in our columns.

CANARY CONTINUALLY MOULTING (*G. F.*).—I should think that there is something in the place where you keep your canary that is injurious to him. Do you keep him where gas is burned, or in too warm or close a place? Draughts are not good, but the birds do best with fresh air. Let the food be quite plain, as canary seed and clean water. Sand the bottom of the cage. He may have as much green food as he will eat, a piece of bread or biscuit to peck, or a few oat grits; but avoid sugar, cake, hump, or rape seed, and indeed all trash.—B. P. BRENT.

CLITHEROE POULTRY SHOW.—I see the Judges have awarded me the second prize in Cochins at the Clitheroe Show. This is an error, as I never sent my birds, the weather being so bad.—R. J. WOOD.

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 5-12, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
5	TU	Hawthorn berries ripe.	69.8	47.3	58.6	16	21	af 5	37	af 6	20	6	4	af 5	O	1 29	248
6	W	Marsh Glasswort flowers.	69.5	46.0	57.7	17	22	5	34	6	50	6	26	6	16	1 49	249
7	TH	Sunflower flowers.	69.6	47.1	58.4	17	24	5	32	6	20	7	47	7	17	2 9	250
8	F	Autumn commences.	68.9	47.3	58.1	17	25	5	30	6	53	7	8	9	18	2 50	251
9	S	Dog Rose leaves fall.	68.8	48.0	58.4	17	27	5	28	6	29	8	27	10	19	2 50	252
10	SUN	13 SUNDAY AFTER TRINITY.	69.4	45.5	57.5	19	29	5	25	6	11	9	41	11	20	3 11	253
11	M	Yew berries ripe.	68.4	46.8	57.6	10	30	5	23	6	59	9		after.	21	3 32	254

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 67.2°, and its night temperature 46.9°. The greatest heat was 83°, on the 5th, 1848; and the lowest cold, 50°, on the 6th, 1850. The greatest fall of rain was 1.09 inch.

## WHAT IS THE CAUSE OF GRAPES NOT COLOURING?



IF the art of horticulture it may be truly said we learn more every year we live. Many problems have been solved; many more remain unsolved; much has been accomplished by the lights that have gone before, but we still, and must ever, see through the horticultural glass darkly and imperfectly, finding something that a combination of scientific with practical knowledge has not before revealed to us. There is not one, even of the most experienced of modern horticulturists, that does not experience some imperfection in his crops which cannot be satisfactorily accounted for, and there is no reason why any one engaged in horticultural pursuits should withhold from the effort towards diminishing the obscurity under which we labour. It has been said that when any one fails in producing what others succeed with that he ought to be the last to say anything about it; but if our failures can be traced to no lack of skill, care, judgment, or management, surely too much cannot be said about it so far as regards the searching for the cause and the remedy of the failure experienced; and this leads me to endeavour to answer the inquiry.

What is the cause of Grapes not colouring? It has been attributed to—1st, Heaviness of crop; 2nd, Too much atmospheric moisture; 3rd, Deficiency of heat; 4th, Insufficient ventilation; 5th, Leaves partially deprived of their powers of elaboration through attacks of red spider, scorching, &c.; 6th, Roots deep, or in a cold wet border. The essentials known, we can only attribute non-success to mismanagement. Certain it is, however, that under the very best treatment Black Hamburgh Grapes are not always the colour of Sloes, nor Muscats like amber. Why? First, I am persuaded the reason of Grapes not colouring at times is not known, or if it is the defect cannot be avoided by pursuing treatment the opposite of the cause assigned; and second, the cause is not even seen until it is too late for remedy.

1. *Heaviness of Crop.*—This may be, and sometimes is, the cause of Grapes not colouring, but not always. I have known a very heavy crop of forty bunches on 20 feet of rafter colour perfectly, although the same Vine would not colour half a dozen bunches of less size in the previous year. In another instance there were upwards of thirty bunches on a Vine: a few bunches at the top were coloured, those in the middle were never otherwise than red and streaked, whilst half a dozen at the bottom of the same Vine were like Sloes in colour. It does occasionally occur that with a heavy crop the berries are larger than usual, and

all goes on well until the colouring process commences, and in this they fail; they swell well, but are longer before they change colour than where a less crop is taken, there being at least a fortnight or three weeks difference in the same house. The quantity of bunches left on a Vine should be regulated, so that it may not be burdened with more than it can bring to perfection; but the precise number to be left seems a point as yet undetermined, and is so dependant on the health and vigour of the Vine as to become a question of judgment rather than of rule. For a Vine in good health from twenty to twenty-four bunches, averaging 1 lb. each, are as much as it can be expected to bring to maturity on 20 feet of rafter. It does not matter whether we take by the rod-system half a dozen that will weigh 4 lbs. or more each, or six times that number of smaller bunches: for a given amount of rafter will not carry more than a certain weight of Grapes, and the amount above stated is the result of the experience of several consecutive years. More may be taken one year, and the Grapes may be all that can be desired, but it is not to the present only that we must have regard, but to the after-crops as well. The Vine may be so weakened by the demands of a heavy crop that it may not be capable of carrying one worth mention for some time afterwards, and then the Grapes may not arrive at the same degree of perfection that they would have done had the Vines not been overtaxed in previous years. Usually it is not in the year that a heavy crop of fruit is taken that the resultant evils are most manifest, and people think because a tree carried a heavy crop of fruit one year it ought to do so again. Nothing can be more at variance with the future well-being of a Vine than to overcrop it. When a heavy crop is taken the whole vital energies of the subject are directed towards its perfection, little remaining for the proper formation and maturation of those parts producing fruit in succeeding years.

That too heavy a crop will prevent Grapes colouring I take as proved by the fact that some Vines with a heavy crop do not colour well, but others in the same house with a fair crop do so perfectly. The solution of the question as to how many bunches a Vine will carry greatly depends on the health and vigour of the Vines themselves, on the size of the bunches, and the space occupied; but I think it may be laid down as a general rule that 1 lb. of Grapes to every foot of rafter occupied is a good crop, and as much as a Vine in full health and vigour can properly mature—if the Vine be weak, then less; if unusually vigorous, more. It is well, however, to be on the safe side, and make sure of a crop that will attain the highest degree of perfection. Experience will be the best guide in determining how many bunches should be left on the Vines when they show; one upon each shoot, and these at every foot along the Vine will be ample, and is very often more than Vines will properly mature. Heaviness of crop is a common cause of want of colour in Grapes; but when it occurs with a moderate crop, and the Vines are healthy and vigorous, we must look for some other cause, and may probably find it in

2. *Too much Atmospheric Moisture.*—This is certainly



very prejudicial to the ripening of fruit, inasmuch as it induces growth and the swelling of the Grapes rather than their ripening. It is no uncommon practice to keep the floors of vineries moist or sprinkled with water after the berries change colour, so as to assist in their second swelling. This, if not too long continued, is not much, if at all, detrimental to the colouring of the Grapes, and it adds immensely to the size of the berries. Sometimes, however, it does prejudicially affect the colouring, and that is when it is accompanied by much moisture in the border. Unless the atmospheric moisture is large in amount, and continued long after the first indication of colouring is observed, I think that it has very little to do with the imperfect colouring of Grapes, for I have seen them much worse-coloured in a dry house without a plant in it than in one crammed with plants, and moist enough for growing Ferns or Orchids. I have seen Grapes as red as Orleans Plums on the roof of a vinery kept dry enough for Caeti when at rest, and yet black as jet when trained to the roof of a moist forcing-house. How was this? The roots of the Vines in the first case were in a wet border, the berries were gorged with moisture, and the leaves exhaled considerably, as was evident by the deposition of moisture on the glass, even with air, and, as might be expected, the berries were larger than in the second case, where the border received no moisture after the berries took their second swelling. Atmospheric moisture, tending to retard the ripening process, is to be avoided, but that it prevents colouring is the reverse of my experience. If, however, the Grapes be constantly syringed, even after they change colour, they will not necessarily be red, but will be devoid of bloom, and like shanked berries in point of flavour.

3. *Deficiency of Heat*.—It is necessary for the ripening of fruit that there be a sufficiency of heat; though this has very little to do with the colouring of Grapes, yet it and dryness of the atmosphere are the essentials for flavour. I have seen Black Hamburgs of the colour of Golden Hamburgs in a vinery with a temperature from 65° to 85° when ripening, but like Sloes in colour in a greenhouse with a night temperature of 50°. Too much heat, inasmuch as it favours rapid ripening, is more frequently the cause of want of colour than less than is necessary to secure flavour, for I find Grapes will colour splendidly in the dark moist autumn months in a temperature of from 50° to 70°. In the case of Vines showing fruit on the laterals, one or two bunches may have been allowed to remain, and were these ever known not to colour though it were October or November before they ripened, although the main crop ripening in July or August was deficient in colour?

4. *Insufficient Ventilation*.—Air is essential alike for colour and flavour in Grapes. They will not colour well without it; but they will not colour sometimes with air day and night. Assuredly insufficient ventilation acts prejudicially as regards the colouring of the fruit, yet I have known Grapes colour well where they had no air whatever in a house not opened during the whole ripening period, the Vines being unpruned, and the bunches not thinned; the doors were left open up to August, and then closed to protect the fruit from depredators. This is not a case for imitation, but it shows that Grapes will colour without air, or with only that entering by the laps of the glass. The house never being wet inside, the blue bloom shone beautifully on the black ground. A dry atmosphere, and ventilation day and night to prevent the deposition of moisture on the berries, secure the bloom of Grapes, which is an unerring test of flavour, though it is by no means uncommon to find the juice of a black-skinned berry sour. Ventilation, so far as it assists in keeping the air in motion, and preventing the condensation of moisture on the berries, is conducive to colour, by preserving the bloom; but that deficient ventilation, or the contrary, will cause Grapes to be red instead of black I do not believe, forasmuch as they may often be seen badly coloured in a well-ventilated and judiciously-managed vinery.

5. *Leaves partially Deprived of their Power of Elaboration in Consequence of the Attacks of Red Spider, Scorching, &c.*—Certain it is that when the leaves are so injured by the attacks of insects, that a certain proportion of their surface is incapable of performing its functions, the fruit must be imperfect, this result very often showing itself in the defective colour and bloom of the Grapes. This is a sure cause of want of colour; but it sometimes happens that the attacks being of short duration, or occurring at the early stages of growth, the berries do not attain their full size, and the leaves have sufficient power to ripen the correspondingly small crop in perfection in respect to colour and bloom. If, on the other hand, the berries attain a good size, and the leaves are then attacked by red spider, or

scorched, the colour of the berries will be bad, and they will be devoid of bloom, or nearly so.

6. *Roots too Deep, or in a Cold, Wet Border, or both combined*.—Grapes have coloured well with me, although no root was nearer the surface than a foot; but the soil was the reverse of wet, and I have also seen them quite red when the roots were deep, and the subsoil heavy and wet. When the roots are deep a late growth is promoted, and this being unfavourable to ripening we have Grapes swelling largely when ripening, but very red. In the case of outside borders it sometimes happens that all will go well up to ripening, then rain may fall daily; and keep the house as dry as we may, the Grapes do not colour, but swell out, and if not, shank. The roots absorb an undue amount of nutriment, it must go somewhere; the old parts cannot appropriate it: hence new parts are made in the form of laterals. It does not matter whether the roots are deep or near the surface, if a continuance of cold rains occur just when the fruit is ripening we may be pretty certain of two results, and very often both—imperfect colouring and shanking. I am convinced that if the border is moist when the Grapes first change colour, it should not be further moistened until they are cut, otherwise they will not colour well, or will do so very rarely, and will not hang long. That a continuance of wet weather (the border being outside) will cause defective colouring, is, I think, proved by the circumstance that the Grapes in the upper part of a house coloured perfectly, the border being dry, and the lower part indifferently from continued wet weather setting in. As further evidence I may add, that with an exposed border a house of Grapes coloured badly, while in another house of which the border was covered with boards, the Grapes coloured well, and hung more than double the time that the others did.

I have now gone over the reasons generally assigned for Grapes not colouring, and stated where I do, and where I do not agree with them. There are cases of want of colour, where none of the above reasons can be assigned, and in which the evil is traceable to want of the requisite appliances and knowledge necessary for Grape-growing; but there are, as I before stated, cases in which Grapes are defective in their colouring under the best management, and with the most approved appliances at command. Everything may be done that means and skill can do, and yet the fruit may be imperfect. I say imperfect, for I am one of those that consider want of colour an imperfection, and to be avoided if possible.

From whence have we disease in plants? From two sources—burdening the leaves with more nutriment than they can elaborate, and on the other hand from a deficiency of nutriment in the soil or atmosphere. For some years no subject was so highly fed as the Vine; and whether it was from the Vine enduring abuse in the shape of strong food without showing any great immediate effects, or from that high feeding causing an immediate increase in the size of bunch and berry, that led some to conclude the Vine was a gross feeder I shall not pause to consider, but will take for granted that in this particular Grape-growers of some twenty or thirty years ago mistook their way. Though dead animals are no longer put in Vine-borders, some growers still employ the bones of animals whole, and in their fresh state. That the oily matter of the bones does not constitute their chief fertilising property is demonstrated by the fact that Vines are quite as vigorous, and more healthy, when the border is composed, in conjunction with other materials, of bones from which the fatty portion has been extracted by boiling, as when fresh bones are employed. The latter I know from experience are positively injurious. What we want from bones in Vine-borders, is the phosphate of lime, and not the gelatine, which is soluble in water, and rapidly becomes putrescent. Putrefaction, whether of animal or vegetable matter in the soil supplies various gases to the roots, and it is from an excess of these that the plants are supplied with more food than the leaves can fully elaborate: hence the rapid extension of the branches and foliage.

It is not uncommon to see in excessively rich borders Vines with leaves like Rhuhrb, and making shoots 20 or 30 feet in length in a season. This, we are told, secures strong canes the first year after planting for fruiting the next. Taking this view of the case, we reduce the very long canes, and, there being a very powerful root-action, the buds break strongly and the shoots are very strong; but this season, as we wish for fruit, the shoots, instead of being allowed to run 20 feet, are kept at the length of a foot. With a powerful root-action, and a decreased leaf and branch development, what, I ask, becomes of the sap that the year before circulated in the greater length of rod and leaf? Surely it is impelled into the fruit and leaves

at present existing. The question is, Do the leaves as fully elaborate; and is the appropriation of the sap as complete, as if there were more leaves? We may flatter ourselves that the head controls the root; but if we keep the head close-stopped it is certain we do not diminish the number of roots already existing, and we have large leaves and loose large bunches as a necessary consequence. By the time that the berries are half swelled the vigorous growth and root-action may be so far controlled as to show none of the evils of high feeding that season, but the berries may be actually of less size than was calculated upon, and the crop ripens off small in berry and perfect in colour. Should the berries, however, attain a large size, it is just possible, with root-action now reduced to a minimum, that the colouring may be bad. The root-action being reduced, it does not follow that the decomposition of the materials of which the border is composed will be arrested, but it goes on whether the roots be there to lay hold of its products or not, and the border affords richer food in the following year than in the first or previous one. This state of things continues for a time without any serious evil being experienced as regards the Vines, and would no doubt set itself right; but we, thinking the border must be in need of manure, give a heavy dressing. We have a splendid show of fruit, and take a full crop; for the Vines, from not being fed to excess, show fruit abundantly, and we leave no more bunches than in the preceding year in which they coloured beautifully, but the berries were rather small, which is attributed to the border becoming exhausted. We now have the satisfaction of seeing the Vines stronger, and the berries seem as if they would not leave off swelling. At last they take a turn. "Are they not fine?" says the proprietor to the visitor. But somehow the gardener does not feel quite at ease; he shakes his head, gives extra ventilation, cannot tolerate a plant in the house, and daily becomes more uneasy. The Grapes colour slowly, but he sees a black berry and a beautiful bloom on it. He sighs, and says to himself they will be all right. He never passes the vinery without looking at the Grapes. Three weeks, and not black yet! The sun shines on a bunch, and he sees the seeds in some of the berries—they will not colour. He takes a near view: they have a good bloom, but have a reddish black skin streaked with black, their proper colour. He tries them for flavour, and compares them with others in another house that are black, and vows they are the better-flavoured of the two. Three weeks longer they hang, but grow no better in colour, and he is obliged to own that they are ripe and badly coloured. Another year he will have them black, but for the time being he will affirm that they are better flavoured than highly coloured Grapes. Blindfold a judge, and give him a berry of the imperfect and another of the perfectly coloured, and he will pronounce the imperfectly coloured the better-flavoured; but let him see what he tastes, and he will give the preference to the perfectly coloured, owning, however, that the former are sweeter and firmer in the flesh than the latter, which, though less sweet, are more juicy, brisk, and refreshing.

To what can we attribute defective colouring, when there is nothing wanting in the management and means, but to high feeding? Take what may be an average crop at the time of the fruit showing, and which may safely be calculated to arrive at maturity; if from some over-zeal more food is given in the atmosphere, or at the roots, coupled with extra pains being taken to secure finer fruit than usual, the result is sometimes badly-coloured Grapes, that no one likes to see, much less grow. I may be told that in consequence of the berries attaining a large size from extra feeding, the crop became heavier than was calculated upon, and was, therefore, too great for colouring well. Surely the increased size of the berries was merely the effect, and the primary cause that which gave the increased size to the berries.—G. ABBEY.

## VENTILATING AND TRAINING IN GROUND VINERIES.

In my opinion a much better mode of effecting the above than the one proposed by your correspondent "F." in No. 229, would be to have a door at the apex of the span at each end. This would give thorough ventilation throughout. These doors could be made to open or shut at pleasure by a mere hinge and button.

Permit me to suggest a few other alterations, I think improvements. Would it not be desirable to fix the case on two tiers of bricks instead of one, the usual practice, and leave the

openings in the upper row? This in some measure would protect fruit from the ravages of mice, slugs, and other vermin.

Again: my practice would be to train the rods on stays—flat pieces of iron lying transversely on the brickwork; this would allow the bunches to hang, thereby swelling and colouring on all sides alike—a desideratum impossible to accomplish when lying on the bare ground, with their upper sides plump and under sides compressed and colourless.—J. N.

## PROPAGATING AND AFTER-MANAGEMENT OF PELARGONIUMS AND OTHER PLANTS.

(Continued from page 64.)

PELARGONIUMS.—Now is the time to propagate the Pelargonium in order to have good plants for planting out next year. Where large quantities are required pots should be dispensed with altogether; and even where Pelargoniums are grown in small quantities they will be found to do best in boxes, in which way also larger numbers can be kept in a limited space. There are many advantages to be gained by adopting this system, one being that the plants grow better when they are turned out of boxes than they do out of pots. The boxes which I use are made by my own men. Formerly we used to have them made by the carpenters who worked on the estate; but we found the demand much greater than the supply, for the carpenters could not make them without measuring, planing, &c., to a great nicety: the consequence was, we could not obtain more than six or eight boxes a-day from them, so without serving a long apprenticeship to a carpenter I thought I would try my hand at box-making. The first thing I did was to get the sawyers to cut me out a lot of strips of wood about 6 inches wide and half an inch thick. Well-seasoned larch I find as good for this purpose as any wood I can procure. Having obtained a good supply of these, my next proceeding was to cut them up into two-foot lengths. After the boards were all cut up search was made amongst the pieces that had been cut to waste for the ends. Of these all that would measure 10 inches or a foot in length were cut to the desired length; then the whole lot was thrown into a tank for an hour or two to soften the wood a little, as we found after a little experience that the nails refused to go into the sides and ends of the boxes without splitting them, the larch wood when seasoned and very dry being very brittle and as hard as oak. After leaving the pieces in the tank for two or three hours, they were taken out and placed in a pile at one end of the potting-bench, which was cleared for the purpose of box-making.

I and my handy man Brown, commenced the work of nailing the sides together at 6 A.M., and by 12 o'clock we had a large pile ready, which only wanted some narrow strips to be nailed across the bottoms, and the rough edges to be trimmed a little. For the bottoms I use strips of the same kind of wood, about 2 inches wide and 1 inch thick. As they are nailed on, an opening of about half an inch is left between each bar, so that the water may pass away freely. Well, at the end of a not-over-busy day we found we had completed forty-nine of these boxes. Such a quantity we should have been obliged to have waited more than a week for had we depended on the carpenters for them. The next day we had at this sort of work, we found we were becoming pretty expert, and time was gained by hitting the right nail on the head, two blows doing instead of four, so that sixty-three boxes were completed in one day. The way we made them was as follows:—Two ends and two sides were selected to match; the ends were then placed on the bench at the proper distance apart, one of the sides was then placed on the ends and a nail driven in at each end to keep them in their proper place, the ends were then reversed and the other side nailed on; about twenty 2½-inch nails are used for nailing the sides and ends together. I find boxes of this description last quite as long as those made by the skilled carpenter. They are kept in almost constant use from two to three years.

In preparing the boxes for the cuttings, I find the best drainage is charcoal, of which some large lumps are placed over the openings in the bottom of the box, I then put some smaller pieces between, finishing off with some small charcoal or the small siftings from the crock heap. There should be about 1½ inch of drainage in the bottom of the boxes. The remaining space in the box is then filled up with nice sandy soil, and a little silver or clean river sand is sprinkled over the surface. After this the cuttings may be put in, the soil in the boxes having been made moderately firm.



Select good firm cuttings, put about sixty or eighty in each box. See that the cuttings are placed flat on the bottom of the hole made by the dibble. The soil should also be pressed firmly around the sides of the cuttings. After the box is full give it a few taps on the bench to shake the river sand in about the cuttings, and finish the operation by giving a good watering. This will consolidate the sand about the cuttings. As the boxes are filled they are placed side by side in long beds, one or two boxes wide, in the open air. They are then left exposed to all weathers till towards the end of September, when they are placed where they can be sheltered from rain or cold nights. By this time the cuttings will have made roots, and about the end of October they should be stowed away in their winter quarters. The best place for this purpose is shelves as near the glass as possible, and where the air can be kept dry and circulate freely amongst them. The more choice kinds—such as Mrs. Pollock, Sunset, Cloth of Gold, &c., should not be put in quite so closely together as the commoner kinds. The soil for them should also be prepared with more care, and silver sand should be used instead of river sand. They will also require a little more warmth in the dull winter months; but they must not by any means be excited into growth, and no attempt must be made to take cuttings from them till the end of March, when such may be taken off with perfect safety and pricked out under hand-lights on an old spent hotbed. I find the tops of hand-lights the best for this purpose, for placing a lump of brick or stone at intervals for the tops of the lights to rest on will allow the air to circulate freely amongst the cuttings. This is one of the most important points to be attended to in striking the Mrs. Pollock section, for if the air is once allowed to become damp and stagnant for ever so short a period it is fatal to them. I mention this here in connection with their spring propagation, because they cannot be fully exposed in the open air at that early period of the season. In the autumn they are struck just in the same way as the commoner kinds; but I find cuttings of the Mrs. Pollock section, struck in the manner described above, grow much more freely when planted out than those struck in the autumn, the latter having a greater tendency to bloom. As the flower is not much wanted in this section, I should advise the propagation of them to be left till the spring, only putting in a few of the very strongest and best-ripened cuttings in the autumn.

All the kinds of *Pelargoniums* should have as little water as possible after they are packed away in their winter quarters; but when they are watered, they should be thoroughly well soaked. To do this, they must be watered three or four times over.

*Spring Management.*—About the last week in March, if the weather is pretty mild and open, with sunshine, the plants are all shaken out of their boxes and planted as thickly as they can be, without crowding them too much, in pits and frames, as near the glass as possible. If the soil in the pits is in a nice moist state they should not be watered, but should be syringed every day an hour or two before the sun is off the glass, and shut up; if there is no sun they must not be syringed. For the more delicate section, such as Flower of the Day, Bijon, Mrs. Pollock, &c., if there is a foot or two of leaves put under the soil, it will be all the better, as it will give them a very slight bottom heat, which will insure their immediate root-action.

By the second week in April the plants will have made new leaves, and will be rather crowded; they should then be taken out and put into larger pits, and placed further apart. At this shift the soil must not be pressed firmly about them; the best way is to make little straight cuts with the spade across the frame, stand the cuttings upright against the back of the nick, sprinkle a little fine leaf-soil about their roots, then at the next shift the plants will come out with nice little balls attached to them.

About the 10th of May the plants are moved again into cradle-beds in the open air, trenches are cut across the beds the same as described for the last shift, and a little leaf-soil put in about the roots. They are then gradually exposed to the open air, and in a fortnight from this time are ready for removal to their final quarters.

Many of the craft will say that I am giving myself much unnecessary trouble by removing the young plants so many times, but when the advantages to be gained by this system are taken into consideration, and it is tried, few will grow their plants in pots. The advantages are—1st, There is not one-tenth part of the labour required in watering. When the plants are planted out in the above manner, they only require

watering once or twice a-week, whereas, if they were kept in pots, in very dry days they would want water twice daily. 2nd, Where plants are kept in pots for several months, the soil becomes sour, and many of the roots are decayed; the plant at planting-out time becomes, in most cases, very much pot-bound, and will not readily take to or emit roots into the fresh soil. Plants kept in pots cannot all be in the same state when planted out, for some will be too dry, others too wet; hence it is that one often sees, after a bed has been planted, some plants growing away vigorously, whilst others remain almost dormant, giving the bed a very uneven and unsightly appearance. 3rd, At planting-out time, there is a great confusion, created by empty pots being scattered about in all directions; much labour is required in collecting them, much is also wasted in washing them, and a great number of pots are broken during the operations of collecting, washing, and storing them away. 4th, By removing the plants twice or thrice they receive a slight check; the points of the roots are broken each time the plants are removed, and where one is broken, ten or twenty fibres take its place. Finally, For the varieties that are wanted to produce effect by their flowers, the series of checks to which the plants have been subjected causes them to flower very soon after they are planted in their permanent beds, and they continue flowering in great profusion all through the season. However dry the weather may be when they are planted out, if care is taken in planting, and they have one good watering, they emit roots into the fresh ground almost immediately. This is not the case with plants turned out of pots; should the weather be dry at the time they are planted out, you may water every day for ten days, and at the end of that time, if a plant is taken up, very few fresh roots will be seen.

The *Pelargonium*-boxes are all washed clean, and are filled with *Verbenas*, *Lobelias*, *Heliotropes*, &c., from the cuttings. These are put into the boxes as thickly as possible, the boxes being then placed in pits and places where there is a gentle bottom heat, and are syringed daily as recommended for *Pelargoniums*. When they have become established, they are planted out, after hardening them off a little, in the places the *Pelargoniums* occupied. They are treated precisely in the same way, and are replanted three times before they are placed in their final flowering-beds. Fine plants can be grown on in this way from cuttings put in the last week in April, and I can guarantee from experience that they will make finer plants, and will cover the ground quicker than those that have been propagated in February, and have been kept in pots up to the time of planting out.

*VIOLA CORNUTA* has proved quite a success, I consider it one of the most beautiful and chaste plants we have for edgings to large beds, and for giving relief to many of our strong and glowing colours. In a future article I shall state the kinds of plants, and the colours that will be relieved by it, and what it harmonises best with. In reply to "Emma," and numerous other correspondents respecting this Violet, I may state here that it may be propagated now or in the spring, and that the Messrs. E. G. Henderson, of the Wellington Nursery, St. John's Wood, London, will be prepared to supply it in any quantity. It also seeds very freely. Seeds sown now will produce good plants for bedding-out next spring.—J. WILLS.

(To be continued.)

## BEDDING PLANTS AFFECTED BY A WET SEASON.

In seasons like the present, when successive thunder showers at intervals of a very few days, with frequent slighter rains between, dash off or otherwise disfigure the bloom of bedding plants, it is of no small importance to know what plants or rather which flowers endure rain best—not that we ought to disqualify those which do good service in ordinary years, but persons residing in rainy districts ought to know on what varieties they can best rely. The present season has been a more growing one than any we have had for some years, and especially the months of July and August, but the frequent heavy rains, however useful they may have been in increasing the amount of herbage, have certainly not had a similar effect as regards flowers, and in some cases where the latter have been forthcoming they have disappeared in consequence of the deluging rains. A few rough notes of the classes of plants suffering least from this evil as well as those of the contrary description may, therefore, not be out of place; for although

the amount of rain which has fallen in Kent may not have been generally equalled in other parts of the kingdom, yet it may be so in another year.

Commencing in the first place with the plants most capable of enduring rainy weather, it will be generally admitted that *Cuphea strigillosa* stands pre-eminent, its pendant flowers seem to be improved in colour by each shower; *Fuchsias* in like manner do not suffer, and most flowers of a pendant character are protected in a measure from the influence of rain, and consequently escape. The same cannot be said of those growing horizontally, for I know of none that suffer more than *Salvia patens*, in which the footstalks of the flowers seem unable to bear the increased weight of the bloom when loaded with moisture, and it consequently falls off; but it is the flowers presenting their principal front upwards that are in general injured by heavy rains. By these, *Geraniums* of most kinds are injured in the petal, and though the blooms do not fall off like those of the *Salvia*, they hang down in bruised and disfigured masses. All the flowering kinds of the *Zonale* family are liable to this, and blooms that have only been open two or three days fall after heavy rain; even the small-petalled ones of the *Nosegay* class suffer equally with the more improved varieties. I need hardly remark that the variegated section are exempt from this drawback, and, on the contrary, are often improved by rain. Amongst the latter class the variety showing most vigour is the Golden Ivy-leaf, which looks better than in any previous season. Next to *Geraniums*, the *Calceolarias* suffer most, especially those of which the flowers become filled with water. These all fall off when so charged, but the blooms of most of the *Calceolarias* when they become what may be called perfectly ripe are easily shaken off by rain; on the contrary some of the varieties endure the autumn rains unscathed, and the best of these is *C. amplexicaulis*. *Verbenas* suffer less from heavy thunder showers than from a prolonged wetting, the latter seems to injure the outer edge of the petal, and it withers and hangs down. *Lobelias* withstand rain well and certainly do better in wet weather than in a continued dry season, while one of the best flowers in this respect, though collecting water, is the *Ageratum*, which does very well in damp weather; and *Petunias* are not by any means the worst. *Gazanias* we all know shut up to escape it, but French and African *Marigolds*, as well as the other members of their family, withstand rain pretty well. *Helichrysums* suffer from it to some extent, but *Asters* and *Stocks* like it better than weather of an opposite kind, and the same may be said of *Dahlias*, the latter, however, growing much taller. *Nierembergias* seem also to like a wet season, but the plant which enjoys rain almost every day is *Alonsoa Warczewiczii*, which in a dry season bears no comparison with what it is in a wet one. Some other plants might be added to the list of sufferers, as *Tropaeolums*, &c.

It must be remarked that although the flowers may either suffer or benefit as described above, the character of the plant is much altered in a wet season. At the present time I have some *Tropaeolums* with the stems touching or lying on the ground, while the upper part of the foliage is 2 feet high, completely concealing the flower. In a dry season, on the contrary, the latter would overtop the other, this is the difference which rain and growing-weather make. *Geraniums*, too, are more productive of leaves and stems than of flowers, and the same remark holds good as to many other plants; *Dahlias* are often fully one-third higher; and in some there is a laxity of bloom, in *Geraniums* especially. *Calceolarias*, on the other hand, produce more bloom by increased growth, so that if that growth can only be effected early enough in the season bloom is sure to follow. *Salvias*, and in fact most plants also become rank, and when so the number of flowers in proportion to the size of the plant is small as compared with what it is under other circumstances; on the other hand, some plants grown for their foliage, as *Perilla* and *Cerastium*, enjoy the moist weather, and bear the cutting and trimming that is necessary all the better of the rain; *Coleus Verschaffelti* and *Amaranthus*, however, like sunny weather best, and most of annuals in like manner do best under such circumstances. It is hardly necessary to remark that the time when the greatest profusion of bloom may be expected is after a fortnight or so of dull, dry, mild weather, when there has been sufficient rain before the setting in of that period to satisfy the wants of the plant. Persons visiting gardens at such times must not expect the profusion which then presents itself to be permanent, neither must they ascribe the want of it, under contrary circumstances, to unskilful management; for with all our forethought and contrivance Nature will always assert her claim to some dominion

over her subjects, and however we may attempt to overcome her, the results of a wet season will always be different from those of a dry one, and to mitigate the evils of both is what we ought to aim at.—J. ROUSE.

## NEW ROSES.

It was anticipated some time ago that the fine seasons of the two or three past years would be productive of great numbers of seedling *Roses*. From the information received from various quarters the anticipation is likely to be fully realised. It is quite natural that the raisers of seedling *Roses* should be desirous of putting forward their productions. It is quite right that their merits should be recognised; but the experience of the past shows that the improvements effected in the "queen of flowers," are gradual, and that out of the great number of varieties annually sent out very few retain a place for a length of time. A word of caution to our *Rose* friends will not be deemed out of place. They will do well to be careful in their selection of new kinds, and not to slight the information that appears in these columns from time to time from various sources.

Among the earliest announcements are those of M. Eugène Verdier, of Paris—a name that has acquired honourable distinction among rosarians. Making a slight allowance for differences of climate and soil, M. Verdier's descriptions have proved truthful as regards the kinds he has hitherto offered, and reliance may be placed upon his selection. It should also be remembered that to M. Verdier we are indebted for Prince Camille de Rohan, undoubtedly the best dark *Rose* yet sent out; also for Madame Charles Wood, Duchesse de Morny, Rushton Radclyffe, Madame Victor Verdier, H. Laurentius, and other fine varieties. He also sent out, but did not raise Maréchal Niel, the greatest acquisition to our yellow *Roses* since the appearance of Celine Forestier, and promising to surpass all that we yet possess of that colour.

The following are M. Verdier's announcements for the next season. The translation is made from his own circular. The first two are Bourbons, the remainder Hybrid Perpetuals:—

*Julius Cæsar*, very vigorous, with stout dark-green branches; thorns almost straight, strong, and blackish; leaves composed of five broad and thick leaflets, delicate green; flowers large, about 10 centimetres (4 inches) in diameter, in clusters of from three to eight, very full, well formed, beautiful deep rose cerise.

*Madame Charles Ballet*, seedling from Louise Odier, very vigorous, branches robust, distinct green, thorns strong, straight, and reddish; leaves composed of five bright green leaflets; flowers large, about 9 centimetres in diameter (3½ inches), in clusters of from four to six, perfectly imbricated; beautiful fresh delicate rose.

*Alba Mutabilis*, seedling from Jules Margottin, very vigorous, with brownish-green branches; thorns long, straight and blackish; leaves composed of five bright-green leaflets; flowers large, about 9 centimetres in diameter (3½ inches), full, white, tinged with rose, becoming completely shaded with rose in the course of expansion.

*Charles Rouillard*, very vigorous, with straight dark-green branches; thorns few, straight or nearly so, reddish; leaves composed of three to five leaflets, deep green; flowers large, about 10 centimetres in diameter (4 inches), of the most perfect form, full; beautiful delicate rose with brighter centre.

*Fisher Holmes*, very vigorous and free-blooming; branches dull green; thorns short, straight, and yellowish; leaves composed of five dark-green leaflets; flowers large, about 9 centimetres in diameter (3½ inches), full, imbricated like a *Camellia*; magnificent scarlet red; very fragrant.

*John Grier*, very vigorous, with dark-green stout branches; thorns strong, slightly curved, yellowish; leaves composed of five apple-green leaflets; flowers large, from 8 to 9 centimetres in diameter (3¼ to 3½ inches), full, well formed, globular, very fragrant; beautiful clear red or dark rose, reverse of petals silvery.

*Jean Lambert*, vigorous, with dark-green branches; thorns numerous, straight, and yellowish; leaves composed of five dark-green leaflets; flowers extra large, about 12 centimetres in diameter (4¾ inches); flame colour, shaded fiery red; the buds are often extraordinary, and resemble a pigeon's egg.

*Mlle. Marguerite Dombrain*, seedling of *Rose de la Reine*, very vigorous, with straight bright-green branches; leaves composed of five to seven delicate green leaflets; flowers extra large, from 12 to 14 centimetres in diameter (4½ to 5½ inches),



full, globular, well formed, and very fragrant; beautiful bluish rose, very delicate, and very fresh.

*Prince de Porcia*, very vigorous, with dull-green branches; thorns sharp, numerous, yellowish; leaves composed of five deep-green leaflets; flowers large, about 10 centimetres in diameter (4 inches), full, well formed; deep vivid vermillion.

*Professeur Duchartre*, very vigorous with bright-green branches; thorns short, slightly recurved, yellowish; leaves composed of five pale-green leaflets; flowers large, from 9 to 10 centimetres in diameter (3½ to 4 inches), in clusters of four and six, full, globular, well formed, very fragrant; bright red, reverse of petals silvery.

*Souvenir d'Abraham Lincoln*, seedling from Cardinal Patrizzi, vigorous, with reddish branches; thorns sharp and brown; leaves composed of five to seven reddish-green leaflets; flowers medium size, from 7 to 8 centimetres in diameter (2½ to 3½ inches), full, well formed; crimson, tinged with fiery red, purple, and rose.

*William Rollisson*, very vigorous, with bright-green branches; thorns sharp and slightly curved, yellowish-brown; leaves composed of five bright-green leaflets; flowers large, about 9 centimetres in diameter (3½ inches), full, globular; magnificent vivid cherry-red.

The following new Roses were obtained by Messrs. Gautreau and Granger, and rewarded with medals at the exhibition of Brie-Comte-Robert.

*Camille Bernardin* (Gautreau), seedling from Général Jacqueminot, very vigorous, with dark-green branches; leaves composed of five bright-green leaflets; flowers large, about 10 or 11 centimetres in diameter (4 and 4½ inches), full, well-formed; vivid red, edged with white; free blooming and very fragrant.

*Carl Coërs* (Granger), very vigorous; wood and foliage dark green; thorns rather numerous; flowers very large, from 10 to 12 centimetres in diameter (4 to 4½ inches), full; deep purple.

*Exposition de Brie*, very vigorous, with reddish-green branches; thorns short and reddish; leaves composed of five deeply-notched leaflets, apple green; flowers large, about 12 centimetres in diameter (4½ inches), full, well-formed; beautiful dazzling vivid red.

From the foregoing copious, and in some respects superfluous descriptions it is easy to point out one variety likely to prove an acquisition—viz., *Mlle Marguerite Dombain*. That it is the best of M. Verdic's seedlings is evident from the description, and from the fact that he intends to publish an engraving of it. The last three are probably good, and should they turn out so, Carl Coërs will also be an acquisition for the sake of its colour, which is still a desideratum. Nearly all the others are too small for the prevailing taste, although under the high cultivation of the Rose in this country, the actual size of the flowers obtained is greater than in France.—ADOLPHUS H. KENT, *Blechingley, Surrey*.

## NEW FRUITS AT THE SAWBRIDGEWORTH ORCHARD-HOUSES.

PERHAPS one of the greatest treats the lover of fruit culture can find is to visit the orchard-houses of Messrs. Rivers & Son, at Sawbridgeworth, which are now in their most attractive condition. We have already made frequent visits to this establishment, and have never come away without being not only wiser than we went, but deeply impressed with the wonderful field which has yet to be explored in fruit culture. For some years past Mr. Rivers, sen., has addressed himself to the work of originating new varieties of fruits which should supply the deficiencies of those with which our gardeners have been so long familiar. His first attempt was to obtain varieties either very much earlier or very much later than those already in cultivation; and, reasoning from a commercial point of view, in securing a crop of fruit a week or ten days earlier than it is customary for the ordinary varieties to appear in the markets, the fortunate possessor of such gains must necessarily obtain an advantage over all other cultivators. This has been strikingly illustrated by the Early Prolific Plum, which Mr. Rivers raised now many years ago. This is well known to be, if not the earliest, at least one of the earliest, Plums in cultivation. When Mr. Rivers saw what the future must be, he attempted, but very unsuccessfully, to induce large market gardeners and orchardists to plant this Plum on an extensive scale, and thereby secure the supply of the home markets before the foreign importations commenced, and before the old

varieties of home fruit were nearly ready. Mr. Rivers pressed his views in vain, and the large stock of young Early Prolific Plum trees which he expected would have been bought up with avidity was left on his hands, much to his disappointment. Great, however, was his faith in the correctness of the views he had adopted; and seeing the public would not accept the advantage he offered he secured it for himself, and the trees that he could not sell he planted in rows in his own grounds. How many thousands of bushels of fruit these trees have since yielded, and how many hundreds of pounds sterling that fruit has since produced, we are almost afraid to say; but true it is that for some years past the first Plums to be found in the streets of London are Rivers' Early Prolific, and we believe the supply comes mainly from these trees to which we have referred.

This is one illustration of the advantage of procuring varieties of fruit which can be brought to market when the great mass is not in season; and it is to attain this end that Mr. Rivers has devoted so many years to the acquisition of such desiderata, and he has been beyond measure successful in arriving at the desired result. This season has witnessed the realisation of the most sanguine expectations in new varieties of the Peach. For many long years the Red Nutmeg and Early Anne were the earliest and best of which we could boast. Then came the two small but nice varieties, Acton Scot and Springrove, but neither of them was such as ardent fruit-growers could be satisfied with. Then we had from across the Atlantic a new race in the form of the Early York, which Mr. Rivers introduced a few years ago; and from this, manipulated in the most extraordinary way with Nectarines, Clingstone Peaches, and the most heterogeneous and anomalous alliances, Mr. Rivers has succeeded in raising a number of varieties, some of which in earliness and others in excellence of flavour far surpass anything already in cultivation. We have had the opportunity for the last two or three years of watching the development of these; and now, after repeated trials and comparisons, the following have been selected from a large number, all of which are good.

The first is EARLY ALFRED, raised from the seed of Hunt's Tawny Nectarine! Singular fact! It is a Peach of the ordinary size, rather larger than otherwise, and marked with a deep suture that is rather higher on one side than the other. The skin is remarkably tender, pale straw-coloured on the shaded side, and somewhat mottled with bright carmine on the side next the sun. The flesh is white, with the jelly-like transparency of that of a Pine Apple, perfectly melting, richly flavoured and vinous, having an exquisite briskness that excites the salivary glands, and cleans instead of clogging the palate.

This delicious Peach ripens early in August.

THE DAGMAR is another of those exquisitely flavoured Peaches, not quite so large as the Early Alfred. It is the second generation from the Early Albert, another excellent variety raised by Mr. Rivers. The fruit is round, and marked with a shallow suture, which is deepest at the apex. The skin is very tender, more than usually downy, of a pale straw colour, almost entirely covered with minute crimson dots, so dense that they almost form a solid mass of colour; but here and there small patches of the yellow ground colour show through and give the appearance as if the fruit were mottled with yellow. Flesh white, with that gelatinous appearance that the whole of these new sorts possess; it is so tender as to melt entirely away in the mouth, and the flavour is very rich and vinous. This ripens about the 10th of August.

ALEXANDRA NOBLESSE is a noble Peach, and a great gain—a great gain in many ways, for it is of the largest size, and has all the peculiar richness of flavour of the old Noblesse; but, unlike that variety, it has glands on the leaves, and is never subject to mildew. It is a remarkable fact, which we should like to have explained on physiological principles, that almost all the Peaches and Nectarines that have glandless leaves are subject to mildew.

This excellent variety was raised from the old Noblesse, and, as we have already said, is of the largest size, round, and marked with a deep suture. The skin is covered with a rough down, and is quite pale without any trace of colour upon it. The flesh is white, even to the stone, and is very melting, juicy, richly flavoured, and vinous.

A very handsome and excellent Peach, which must take the place of the old Noblesse. It ripens early in August.

DR. HOGG.—This is also a grand early Peach, both for its size and the excellence of its flavour. It differs, however, from all of the preceding in not having that very melting flesh

that they have, but one more firm and solid. In this respect it has a great advantage, as it renders the fruit more portable and not so subject to injury from transmission to a distance. As a Peach, therefore, for all establishments where the fruit is grown for sale, or sent by public conveyance, this will be invaluable; no other variety, that we know, possessing these qualities, combined with such richness of flavour and so early.

The fruit is large and round, with a very distinct suture, which is deeply cleft at the apex. Skin thin but tough, lemon-coloured, dotted with crimson on the shaded side, and with a faint crimson cheek next the sun. Flesh yellowish white, somewhat firm but melting, with a rich full sugary flavour, which adheres to the pit notwithstanding its fine briskness; it is very deeply stained with red at the stone.

This ripens about the 10th of August, and is the largest early Peach known. As an exhibition variety, it will be in high repute on account of its size and remarkably full flavour; and for market purposes, its earliness, size, and the ease with which it bears carriage, will render it the most valuable Peach in cultivation. The tree is a very strong grower, remarkably vigorous and healthy, and bears immensely. It was raised from a very hardy Peach which Mr. Rivers procured in Brittany, called *Pêche Deniaux*.

## THE CRYSTAL PALACE AUTUMN SHOW.

AUGUST 30TH AND 31ST.

THERE was on this occasion a very extensive and excellent show, though from being limited to fruit and the cut flowers of the season, there was not so much variety as at the summer exhibitions. As in previous years, one half of the nave was occupied by fruit, the other by flowers; but the exhibitions did not appear to be so numerous as last year, nor were the tables on the first day so thronged with visitors as usual at the Palace shows.

DAHLIAS constituted the principal feature of the floral display, and several of the stands, especially those of Mr. Keynes, of Salisbury, among nurserymen, and of Mr. C. J. Perry, of Castle Bromwich, among amateurs, were of the highest merit, the blooms being not only large in size but exquisite in form and colour.

For forty-eight blooms Mr. Keynes was first—reading from the left, first row—seedling Annie Austin, Mrs. Trotter, Lord Shaftesbury, Earl of Pembroke, Lilac Queen, British Triumph, Willie Austin, Ne Plus Ultra, Bird of Passage, Earl Russell, Edward Spary, Juno, Foxhunter, Lady Maude Herbert, seedling Marquis of Winchester; 2nd row—Lord Derby, Charles Turner, Queen of Primroses, Helen Potter, Queen of the Isles, Pauline, John Wyatt, Princess, Lady Palmerston, Donald Beaton, Miss Henshaw, Disraeli, Champion, Miss Herbert, Charlotte Dorling, Chairman; back row—Leah, Baron Taunton, Lord Clyde, Andrew Dodds, Golden Drop, Lord Palmerston, Jenny Austin, Hero, George Wheeler, Peri, Hugh Miller, Mrs. Wyndham, Anna Keynes, Lady Gladys Herbert, and Mrs. Hogg. The second prize was also awarded to Mr. Keynes for a collection consisting, with but a few exceptions, of nearly the same varieties; the third to Mr. Walker, Thame, Oxon, and the fourth to Mr. Wheeler, Warminster. Messrs. Allen, Shacklevell, Wood & Ingram; and Legge, of Edmonton, likewise contributed stands of forty-eight.

For twenty-four blooms Mr. Keynes was again first with Miss Henshaw, Golden Gem, Miss Herbert, Juno, Charles Turner, Bird of Passage, Champion, Annie Austin, Lord Derby, Pauline, Anna Keynes, Disraeli, Golden Drop, Earl of Pembroke, Mrs. Wyndham, Andrew Dodds, Leah, Jenny Austin, Chairman, Baron Taunton, Norfolk Hero, Lady Gladys Herbert, Hugh Miller, and Helen Potter. Mr. G. Wheeler was second; Messrs. Kelway, Laugport, third; Mr. Draycott, Humberstone, fourth; Mr. Walker, fifth; and Mr. Legge, sixth, all having good stands.

To the Amateurs' class for the same number Mr. C. J. Perry took the first position, with excellent blooms of Earl of Pembroke, Deh-cata, Countess of Shelburne, Purity, Model, Empire, Charles Turner, Ne Plus Ultra, George Wheeler, Stella Colas, Miss Roberts, Bob Ridley, Bird of Passage, Chairman, a finely-formed rich maroon seedling, a blush seedling, Leah, Princess, Lord Derby very fine, Hugh Miller, Disraeli, Miss Henshaw, Lord Palmerston, and Volunteer. Mr. H. Thorneycroft, Flore, Wedon, was second, with an excellent stand, including several of those already named. *Triomphe de Percy*, Lord Dundreary, Lady Lilian Paulet, Volunteer, and Mrs. Charch, large and fine. Mr. J. T. Hedge, of Reed Hall, Colchester, was third; Mr. Hopkins, Brentford, fourth; Mr. Leslie, St. Peters, Margate, fifth; Mr. Pettfield, gardener to G. Thornhill, Esq., Diddington, Hunts, sixth. In Mr. Hedge's stand was a remarkably fine bloom of *Criterion*, measuring not less than 5 inches across, and *Madge Wildfire*, a very fine scarlet. The class for twelve blooms also comprised several excellent stands, in which figured most of the varieties already enumerated. Mr. Thorneycroft was first; Mr. Pettfield, second; Mr. C. J. Perry, third; Mr. T. Dicks, Brockhall, fourth; Mr. Hopkins, fifth; Mr. J. Bennett, gardener to J. C. Thurn, Esq., Champion Hill, sixth.

Of Fancies, several very good stands were shown by Messrs. Keynes, Perry, and Thorneycroft, comprising *Queen Mab*, *Striped Perfection*,

*Sam Bartlett*, *Pauline*, *John Salter*, a very fine scarlet-striped buff; *Prospero*, *Joha Baun*, *Mary Lander*, *Formidable*, *Lord Warden*, *Countess of Shelburne*, *Countess of Bective*, *Samoetide*, *Giribaldi*, *Lady Paxton*, *President Lincoln*, and *Stafford's Gem*, a very pretty yellow tipped erinson. Among those from Mr. Perry were *Sturter*, a variety of his own raising, sent out this year, nearly black, and distinctly tipped with white; and *Miss Powell*, purplish crimson, with blackish streaks and light tips. In the nurserymen's class Mr. Keynes was first and third, and Mr. Legge second. In the amateurs' class, Mr. C. J. Perry was first and second, Mr. Thorneycroft third.

Several seedlings were shown, which will be reported on separately. One, *Chung*, was remarkable for its immense size, and another, *Mrs. Savory*, for its peculiarly beautiful colour. Of the latter it is impossible to speak too highly; it will infallibly take a first-class position.

ASTERS, both quilled and tasselled, were exhibited in great perfection and variety. For the former Mr. L. Beslie, East Hendred, was first; Mr. J. Jennings, Shipston-on-Stour, second; Mr. D. Lewis, Hendred, third; Mr. J. T. Hedge, fourth; and in tasselled Mr. J. Ward, gardener to F. G. Wilkins, Esq., Leyton, was first; Mr. Hedge, second; Mr. Wheeler, Warminster, third.

ROSES.—These of course were not in such perfection as at the summer shows; there were, nevertheless, all things considered, some very good stands, particularly those from Messrs. Paul & Son, J. Hollingworth, Esq., and Dr. Cooper. Among the varieties which were seen to most advantage were *Maréchal Niel*, *Madame Victor Verrier*, *Pierre Notting*, *Prince Camille de Rohan*, *Madame Boll*, *Souvenir de la Malmaison*, *Gloire de Dijon*, *Gloire de Santenay*, *Charles Lefebvre*, *Jules Margottin*, *Senateur Vaisse*, *Madame Bravy*, *Sombreuil*, and *Madame Falcot*. Prizes.—For thirty-six trusses: Messrs. Paul & Son, first; Mr. G. Clarke, Brixton, second. For twenty-four single blooms: Messrs. Paul & Son, Chestnut, first; J. Hollingworth, Esq., Maidstone, second; Mr. G. Clarke, Brixton, third. For eighteen single blooms: Dr. Cooper, Slough, first; Mr. H. Thorneycroft, second; J. Hollingworth, Esq., third; Mr. Hedge, fourth; Mr. W. Smith, gardener to T. Moxon, Esq., Leyton, extra prize.

HOLLYHOCKS were not, generally, in good condition, with the exception of those shown by the Rev. E. Hawke, of Willingham Rectory. Gainsborough, who, besides being a most successful cultivator and raiser of this flower, had the advantage over the growers near London of a later climate. Rev. Joshua Dix, Willingham Rectory, Mrs. Cochrane, Lady Craven, J. Ullett, and Lilac Perfection were a few of the most noticeable. Lord Loughborough and Lord Roxley were also very fine, as shown by Mr. Thompson. Prizes.—For twenty-four: —Rev. E. Hawke, first; Mr. J. Thompson, gardener to H. B. Creswell, Esq., Chathill, second; Mr. B. Porter, gardener to Hon. H. A. Ashby, Epping, third. For twelve: Rev. E. Hawke, first; Mr. J. Thompson, second; Mr. B. Porter, third.

VERBENAS.—The best of these came from Mr. C. J. Perry, and among them were included *Charles Perry*, *Cleopatra*, and *W. Dean*, noticed at page 94, of which the last two received first-class certificates. *Snowball*, the best of the whites, and *Lilac King* very fragrant; as well fine trusses of *Lord Leigh*, *Foxhunter*, and other well-known sorts. Mr. Perry took the first and second prizes; Mr. Vockins, gardener to F. T. Noakes, Esq., Lewisham, the third.

MISCELLANEOUS subjects consisted of cut flowers of stove and greenhouse plants from Mr. Rhodes, and Mr. Frisby, gardener to H. Chaplin, Esq., Sleaford, who received first and second prizes; some good *Zinnias* from Mr. August, Boddington; *Japan Lilies* from Mr. Parker, Lower Norwood; and a pretty silvery variety of *Cupressus Lawsoniana* from Messrs. Water & Goldfrey. From Messrs. Downie, Laird, & Laing came a collection of plants suitable for sub-tropical gardens, comprising *Ferdinandia cuneus*, *Wigandia caracasana*, *Nicotiana wigandioides*, *Aucuba zygomeris*, *Polynnia gracilis* with large deeply cut leaves; *Solanum pyracantha*, with conspicuous cinnamon spines, and the ribs of the leaves of the same colour; *S. marginatum argenteum*, used in the public gardens at Paris where the silvery margined-leaves have a pretty effect when stirred by the wind; *S. robustum*, a noble kind for bedding; *S. hystrix*, *Balbesi*, and several others of the same family. *Antirrhinum*, *Phlox*, and *Pontederac* were also shown by the same exhibitors; and *Invincible Sweet Pea* from Mr. S. Brown, of Sudbury, Suffolk, was awarded a first-class certificate. From Messrs. Carter & Co., came tastefully-filled plant-cases, and good examples of Mrs. Pollock Geranium.

GLADIOLI AND SEEDLING DAHLIAS.—I had hoped that the alteration in the schedule of the Crystal Palace Autumn Show, by which amateurs were separated from nurserymen in the classes for Gladioli, would have brought together a much larger number of competitors; it did not, and this, coupled with the absence of such growers as Mr. Staudish of Ascot, and Messrs. Youell, of Great Yarmouth, tended to make the exhibition of these beautiful autumnal flowers below the usual mark. My friend and neighbour Mr. Sladden, of Ash, near Sandwich, exhibited a fine stand, and there were some excellent spikes in the Messrs. Kelway's collection, although the method of exhibiting them finds no favour in my eyes. I look upon the way in which their second collection was set up with *Yucca* leaves simply as a barbarism which ought not for a moment to be tolerated.

Having adverted in last week's Number to some of Mr. Staudish's flowers, I can now add a few notes on some of the French varieties as exhibited by Messrs. Kelway, Mr. Sladden, and Messrs. Paul & Son; some of these are flowers that have been in growth many years, but to



those who are forming or desirous of forming a collection, the notes on them may be of service:—Penelope, an old, very old flower, bluish shaded with carnation, with sulphur and carmine blotch. Belle Gabrielle, rosy lilac, striped with bright rose, large flower. Adonis, an old but good sort, cherry, spotted with carmine. Fulton, one of the new flowers of last year; transparent vermilion, with more of an orange shade than James Veitch, but a well-shaped flower, with good spike. Madame Furtado, another of last year's seedlings, in the style of Standish's Eleanor Norman, but not, to my mind, so good a flower, though my friend Mr. Sladden disagrees with this. James Veitch, a flower of 1863, very brilliant crimson, violet spot, fine spike and very effective. Edalia, a very beautiful flower; under petals white, spotted violet; upper petals marked with white. Le Poussin, clear red on white ground; under petals with large white blotches. Achille, an old, but prettily-coloured flower; currant red, stained with crimson and white. Napoleon III., another old but excellent variety, with good spike; red, with white lines in the centre of the petals. Madame Basseville, cerise rose, with purple spots on a white ground; very good. Bertha Rabourdin, white, beautifully marked with rosy carmine. Madame de Vetry, white shaded, spotted, and blotched with carmine; good. McMahon, glossy satin orange, spotted with red. Marie Dumortier, bluish, violet purple spots on yellowish ground. In Mr. Sladden's stand there were no less than fourteen seedlings of his own raising; amongst them Cato, a curiously shaped one, and a yellow. Miss Sladden, were promising flowers, the latter especially.

Prizes for twenty-four: first and second, Messrs. Kelway & Son, Langport; third, Messrs. Paul & Son. For twenty-four (Amateurs): first, Mr. J. Sladden; second, Mr. W. Ingle.

A large number of seedling Dahlias were sent in. Let me give their names, characters, and awards. Miss Adams, Fancy, poor. Lady Derby, white, tipped. Black Hero, dark. Lilac Perfection, too small. Mr. Gibson, small. Yellow Triumph, bright yellow; second-class certificate; Attraction, Fancy. Sunbeam, scarlet, white-tipped. John Downie, yellow ground, tipped. Lady of the Lake, white, tipped, confused. James Backhouse, lilac; no advance. Jeannie Deans, Chung, yellow striped Fancy, large, somewhat coarse; second-class certificate; will be a useful flower in an amateur's hands; George White; President Lincoln; Sir Greville Smythe; Lottie Atkins, white, beautifully tipped; a splendid flower, first-class certificate. John Bann, cream, fiery-striped; common. Annie Austin, buff; second-class certificate. Marquis of Winchester, dark crimson; fine flower, of excellent build; first-class certificate. Frank Titian, striped Fancy. Majestic, dark purple. Sunlight, buff. Hebe, tipped. Firefly, Princess Alice, Amber Witch, all poor. Master of Arts, bronze satin, lilac lack of petals; something in the style of Rawlings' King; second-class certificate. Lillie Franklin, Fair Imogene, Lord Enfield, nothing remarkable. Fanny Start, fine Fancy, scarlet, heavily tipped with white; a first-rate flower, and a great addition.

It will thus be seen that three flowers—Marquis of Winchester, Lottie Atkins, and Fanny Start received first-class certificates; and I can testify to their being decided acquisitions for Dahlia-growers, and especially for exhibition purposes—an opinion in which I am not singular, as some of the best and largest growers in the kingdom expressed the same during the day. Everything passed off well; and the kindly feeling and courtesy that pervades all connected with the Crystal Palace flower shows, marshalled under the guidance of the indefatigable and excellent Superintendent, Mr. Wilkinson, were never more manifested than on this the closing flower show of a very successful season.—D., Deal.

#### FRUIT.

The best collection came from Mr. Miller, gardener to Earl Craven. Combe Abbey, and comprised a good Moscow Queen Pine, Monarch Melon weighing 7½ lbs., splendid bunches of Muscats and Black Hamburgh Grapes, the three bunches of the former weighing 10 lbs., and the latter 10½ lbs., Morello Cherries, Peaches, Nectarines, and Plums. Mr. Bailey, gardener to T. Drake, Esq., Shardeloes, was second with a Queen Pine, Melon, fine bunches of Bowood Muscat grown in pots, Figs, Peaches, Nectarines, and Jefferson Plums; and Mr. Donald, gardener to J. G. Barclay, Esq., Leyton, was third. Fruit of the Papaw was exhibited in a collection from Mr. Carr.

PINES were not numerous, but some of them were very good. A splendid Queen from Mr. Barnes, gardener to Lady Rolle, Bieton, was first in the class for that variety. Mr. Miller was second with one of 3½ lbs., and Mr. Higgs, gardener to Mrs. Barchard, Putney Heath, third. In the class for any variety. Smooth-leaved Cayenne, very good, from Mr. Page, gardener to W. Leaf, Esq., was first and third, and Black Jamaica from Mr. R. Smee, gardener to W. Stone, Esq., Dulwich, second. Prickly Cayenne, Moscow Queen, and Black Jamaica were the other kinds shown.

GRAPES were fine, especially the Black Hamburghs from Mr. Meredith, of which the bunches were large, and the berries of extraordinary size, and perfect in colouring; and a fine basket was also shown by the same highly successful grower. Mr. Miller contributed three very fine bunches weighing 11½ lbs., but the berries were not so large; and good well-coloured bunches came from Mr. Osborne, Mr. Sage, Messrs. Lane & Son, and Mr. Ford. Mr. Wills contributed an excellent basket of West's St. Peter's. In White Grapes, good Muscats, but scarcely ripe enough, came from Mr. Osborne, and Golden Hamburgh, from Mr. Miller, was exceedingly fine; the centre bunch weighed

no less than 5 lbs., and the two side ones together 7 lbs. Buckland Sweetwater, and Trebbiano, were also shown in good condition, and Royal Vineyard came from Mr. Williams, of Holloway. The class for the heaviest bunch of any kind was a poor one. Mr. Irving, gardener to the Duke of Hamilton, had Black Hamburgh badly coloured, weighing 5½ lbs., and Mr. Osborne, the same kind, weighing only 3 lbs.

Prizes.—Boxes of 12 lbs. weight: first, Mr. J. Meredith, The Vineyard, Garston; second, Mr. G. Osborne, Kaye's Nursery, Finchley; third, Messrs. Lane & Son, Great Berkhamstead; extra, Mr. W. Cross, gardener to Lady Ashburnton, Romsey. For three bunches of Black: first, Mr. J. Meredith; equal second, Mr. G. Sage, gardener to Earl Brownlow, Ashridge, and Mr. G. Osborne; equal third, Messrs. Lane & Son, and Mr. J. Ford, gardener to Rev. T. D. Hudson, Watton, Herts. For three bunches of White: first, Mr. G. Osborne; second, Mr. W. Miller; third, Mr. T. D. Irving, gardener to the Duke of Hamilton, Wickham Market. For the largest bunch of any kind: first, withheld; second, Mr. T. D. Irving; third, Mr. G. Osborne.

PEACHES and NECTARINES were generally small. Some well-coloured fruits of Royal George, Barrington, and Bellagarde Peaches were shown, and of Violette Hative and Elrige Nectarines.

Prizes.—Peaches: first, Mr. George King, gardener to K. Loader, Esq., Slough; second, Mr. W. Kaile, gardener to Earl of Lovelace, Ripley; third, Mr. C. Evans, gardener to Gen. Cartwright, Weedon; extra, Mr. W. Ingle, gardener to C. G. Round, Esq., Colchester, and Mr. J. Enstone, gardener to Sir J. Duckworth, Wear, near Exeter. Nectarines: first, Mr. George King; second, Mr. W. Tillery, gardener to the Duke of Portland, Welbeck; third, Mr. W. Ingle.

MELONS.—Of these there was an extensive and fine display. Marquis of Ailsa was first in the Green-fleshed class, and Bailey's Gem in the Scarlet-fleshed.

Prizes.—Green-fleshed: first, Mr. T. Godfrey, gardener to A. Bingham, Esq., Ware Park Mill, Herts; second, Mr. T. Crane, gardener to Rev. E. L. Deeds, Hertford; third, Mr. O. Goldsmith, gardener to Sir W. Farguhar, Bart., Dorking. Scarlet-fleshed: first, Mr. C. Smith, gardener to A. Anderson, Esq., Norwood; second, Mr. Bailey, Shardeloes; third, Mr. H. Thorneycroft.

FIGS.—Noticeable among these were good examples of Brown Turkey and Brunswick. Mr. Enstone was first; Mr. Timberley, gardener to Sir C. Goring, second; and Mr. Kaile, third.

CHERRIES were chiefly confined to Morellos and Late Dukes, which were very good, but a few Bigarreaux and Flemish were also shown.

Prizes.—Two dishes, distinct kinds, in fifties: first, Mr. G. Sage; second, Mr. Bailey; third, Mr. W. Tillery; extra, Mr. R. Marcham, gardener to E. Oates, Esq., Hainwell.

PUMPS were numerous, and some of them were very fine. The first prize went to Mr. Bailey, for Victoria, Jefferson, and Washington; the second to Mr. Simmonds, gardener to J. Smith, Esq., Dorking, for the last two, and Kirke's; and the third to Mr. Sage, for Kirke's, Washington, and White Magnum Bonum; Mr. J. Wells, gardener to A. Gilbert, Esq., Windsor, and Mr. O. Goldsmith, were equal fourth. Green Gage, Coe's Golden Drop, Goliath, Black Diamond, Pond's Seedling, and some others were well represented.

APPLES, especially the kitchen kinds, were very numerous, but not remarkable as regards size, and many of the dessert kinds had not arrived at their full perfection. Emperor Alexander, New Hawthornden, Lord Suffield, Reine des Blancs de l'Espagne, and Nelson's Glory from Messrs. Gadd & Son, Worthing, were first; and Heary Morning, Lord Suffield, Blenheim Pippin, Emperor Alexander, Praiseworthy, and Tambour from Messrs. Lane, of St. Mary's Cray, were placed second; Hollandbury and Emperor Alexander from Mr. Webb, of Reading, who was third, were finely coloured. Mr. Kaile was fourth. In dessert kinds Dr. Cooper, of Slough, who was first, had beautifully coloured examples of Devonshire Quarrenden, Red Astrachan, and Early Red Margaret; and Mr. Sheath, Langley, was second with these three. Cox's Orange Pippin, Ribston Pippin, and White Peach. Mr. G. House, Slough, was third; and Mr. W. Wren, gardener to E. Purser, Esq., Carshalton, and Messrs. Lane, St. Mary's Cray, equal fourth. Collini, Kerry Pippin, Fearn's Pippin, and many others were also well represented.

PEARS were tolerably numerous, but the period of the season only admitted of early sorts being exhibited. The varieties principally shown were Louise Bonne of Jersey, Gansel's Bergamot, Williams' Bon Chretien, and Marie Louise. The heaviest dish was Uvedale's St. Germain, weight 8 lbs. 10 ozs., and a fine dish of Maréchal de la Cour from G. Wilson, Esq., Weybridge, was second. The same gentleman also exhibited a fine dish of Louise Bonne of Jersey.

Prizes.—For three dishes: first, Mr. J. Sheath, Slough; second, Mr. W. Richbell, Epsom; third, Mr. D. Donald. Single dish, for weight: first, Mr. G. W. Gadd, gardener to J. R. Jaffray, Esq., Reigate; second, G. F. Wilson, Esq.; third, Mr. J. Morris, gardener to T. G. White, Esq., Wethersfield. Single dish, for flavour: first, Mr. H. Anstiss, Chiswick; second, Mr. Bailey; third, Mr. J. Fraser, Leyton.

MISCELLANEOUS.—From Messrs. Lane & Son, Great Berkhamstead, and Mr. Geirs, Norwood, came Vines in pots; those from the former being loaded with beautiful bunches. For these first and second prizes were awarded to their respective exhibitors; also, for Peaches in pots from Mr. Vertigan, Clapham, and Mr. Fraser, Leyton. Mr. Sage, sent a collection of the fruit of different kinds of Capsicums and a cluster of Bananas; Mr. Carr, a large cluster of Bananas, the

fruit of the Papaw, and a Granadilla; Mr. Cuthill, of Camberwell, an Australian Melon, weighing 5 lbs.; Mr. Turner, Streatham, good boxes of Peaches and Nectarines; Mr. Sawkins and Mr. Higgs, Currants; and the Wizard of the North, two Mammoth Gourds of great size.

## THE CARSHALTON AND BEDDINGTON SHOW.

On a bright day in last week (August 24th), we made a pilgrimage, and it was a very pleasant one, to the second Show of the Carshalton and Beddington Horticultural Society. This was held by the kind permission of Mr. Aitken in the beautiful park of Carshalton, very near to the house where lived, a century and a half since, the sour-tempered Dr. Radcliffe, the founder of the Radcliffe Library. The site for the Show was happily selected in a fine old park, which is surrounded by the very extensive herb and flower fields for which this district is celebrated. The whole Show, which was a most successful one, did credit to the Committee, and to the horticultural skill of the two small parishes in which all the exhibitors hold their gardens. A very interesting feature of this Show will, on the next occasion, be the specimens of the flowers and herbs cultivated in the little group of parishes of Carshalton, Beddington, and Mitcham, chiefly for their perfumed oils. In Mitcham alone about 750 acres are now employed for this purpose—viz. :—

For the growth of Peppermint, .....	about 224 acres.
" " Lavender .....	" 175 "
" " Roses .....	" 121 "
" " Chamomile .....	" 60 "
" " Liquorice .....	" 30 "
" " Henbane .....	" 25 "
" " Various minors .....	" 120 "

The Lavender and the Peppermint are chiefly distilled for their oils. The yield of the oil of Lavender is now about 10 to 13 lbs. per acre. The plants are changed every three years. The product of oil from the second year is the largest. Of the oil of Peppermint, the product is about 7 to 12 lbs. per acre. About 300 bushels of Roses per acre are produced in good seasons. These are chiefly used for making Rose water. They are gathered before sunrise, and are kept in a drying-house heated by air to about 100° for some time. We do little in our country in the production of the otto of Roses, that comes to us from far more sunny climes. This fine-scented oil, according to Mr. Kimmel, is very largely produced in the districts around Adrianople. It is worth, according to its degree of purity, from 15s. to 30s. per oz. That from the south of France is very fine; the best, however, comes from Tunis, and is worth about £4 per oz. There is also that made at Ghazepore, in the East Indies, worth £12 per oz.! There was imported into England of oil or otto of Roses in—

	1861.	1862.
From France .....	1167	1105
" Turkey .....	695	1553
" Bombay .....	1068	—
" Other parts .....	98	26
	2968	2690

The oil or otto of Roses is chiefly obtained, according to Dr. Hogg ("Vegetable Kingdom," page 305), from the Damask and Cabbage Roses. At Ghazepore, in India, the Rose gardens occupy about 150 acres of land; each acre contains 2000 Roses, which in a good season, yield in March and April, a lac of flowers, and this weight produces only about 180 grains of the otto. Our Rose water is obtained by distilling off one gallon from 2 lbs. of Roses and two gallons of water. The chief towns of southern France, where the manufacture of scented oils is carried on, are Grasse, Cannes, and Nice. At Grasse, which is the head-quarters of the manufacture, it has been estimated that there are annually used for this purpose, 1,760,000 lbs. of Orange flowers; 550,000 lbs. of Rose flowers; 110,000 lbs. of Jasmine flowers; 66,000 lbs. of Violets; 66,000 lbs. of Cassie; and 33,000 lbs. of Tuberoses. It is hopeless to attempt to cultivate these in our country for perfumery purposes. English flowers, however beautiful in form and colour, do not, it seems, possess sufficient intensity of odour. The only flower which could be had in abundance, would be the Rose; but the scent of even this is faint compared with the southern Rose. The best essence of Orange flower, or *neroli*, is made from the flower of the Bigarrade, or Bitter Orange tree. The other two essential oils, jasmine and cassie, are only distilled in Northern Africa.

We subjoin the list of the prizetakers at the Carshalton Show :—

Six Fuchsias.—First, Mr. Shoebridge, gardener to E. C. Goad, Esq., Hackbridge House. Second, Mr. August, gardener to Rev. — Bridges, Beddington. Extra, H. Jackson, Esq., Carshalton.

Four Fuchsias.—First, Mr. August. Second, Mr. Holder, gardener to H. Browning, Esq., Wallington.

Specimen Fuchsia.—First, Mr. August. Second, Mr. Jarvis.

Six Achimenes, distinct varieties, eight-inch pots.—First, Mr. Hubbard, gardener to — Marshall, Esq., Beddington.

Six Balsams, distinct double varieties, 11-inch pots, without stakes.—First, Mr. Barnett, gardener to G. Drason, Esq., Beddington. Second, Mr. Hubbard.

Six Cockscombs, eight-inch pots.—First, Mr. J. Mortimer, gardener to A. Smee, Esq., Beddington. Second, Mr. Hubbard.

Twelve Exotic Ferns.—First, Mr. W. Mortimer, gardener to W. Potts, Esq., Carshalton. Second, Mr. Hubbard.

Twelve British Ferns, rarest and most distinct species.—Prize, J. H. Hay, Esq., Carshalton.

Eight Lycopodiums.—First, Mr. Hubbard. Second, Mr. W. Mortimer.

Six Zonal Geraniums.—Prize, Mr. Shoebridge, gardener to E. C. Goad, Esq.

Five Ornamental-foliaged Plants.—First, Mr. Hubbard. Second, Mr. W. Mortimer. Third (extra), Mr. Whittleton, gardener to L. Charrington, Esq., Beddington.

Six Herbaceous Calceolarias.—First, Mr. Harvey, gardener to W. Johnson, Esq., The Limes. Second, Mr. Barnett.

Collection of Bedding Geraniums, not less than twelve, six-inch pots.—First, Mr. Harvey, gardener to W. Johnson, Esq. Second, Mr. August.

Miscellaneous.—Prize, Mr. Holder, gardener to H. Browning, Esq., for a Cissus; Mr. Mortimer, for a *Coleus Verschaffeltii*; Mr. J. Baines, for two seedling Geraniums; Mr. Card, gardener to R. Bethell, Esq., Woodmanstowe. Honourable Mention, Mr. Card, for seedling Geraniums. Prize, Mr. August, for Petunias.

### CUT FLOWERS.

Twenty-four Dahlias.—First, Mr. Harvey. Second, Mr. Shoebridge. Twelve Dahlias.—Prize, Mr. Barnett.

Twelve Fancy Dahlias.—Prize, Mr. Shoebridge.

Extra Prize to Mr. Barnett, for twelve Bouquet Dahlias.

Twenty-four Roses.—First, Mr. Barnett. Second, Mr. Whittleton.

Twelve Roses.—First, Mr. Wren, gardener to E. Parser, Esq. Second, Mr. Barnett. Third (extra), Mr. Whittleton.

Twelve Verbenas, three trusses of each.—First, Mr. Holder and Mr. August (equal), gardeners to H. Browning, Esq., and Rev. — Bridges. Second, Mr. Barnett.

Twelve Tasseled Asters.—First, Mr. Holder. Second, Mr. Barnett. Third (extra), Mr. Harvey, gardener to W. Johnson, Esq.

Twelve Quilled Asters.—First, Mr. Harvey. Second, Mr. J. Mortimer.

Six Hollyhocks, various.—First, Mr. J. Mortimer. Second, Mr. August.

A beautiful design for the Table, most tastefully arranged.—Prize, Mr. Shoebridge.

Miscellaneous.—Extra Prize to Mr. August, for thirty-nine Zinnias, distinct varieties.

### FRUIT.

Black Grapes, three bunches.—First, Mr. Wren, gardener to E. Parser, Esq. Second, Mr. Rhodes, gardener to L. H. Mackenzie, Esq. Third (extra), Mr. J. Mortimer, gardener to A. Smee, Esq.

White Grapes, three bunches.—First, Mr. J. Mortimer. Second, Mr. W. Mortimer, gardener to W. Potts, Esq. Two bunches.—Prize, Mr. Richens.

Best Vine in pot.—First, Mr. Holder, gardener to H. Browning, Esq. Second, Mr. Shoebridge, gardener to E. C. Goad, Esq.

Best Peach, in pot.—Prize, Mr. J. Mortimer.

Best Plum, in pot.—Prize, Mr. J. Mortimer.

Pine Apple.—Prize, Mr. Shoebridge.

Six Peaches.—First, Mr. J. Mortimer. Second, Mr. Seymour, gardener to Rev. F. N. Ripley. Third (extra), Mr. Inwood, gardener to J. Aitken, Esq.

Six Nectarines.—First, Mr. Holder. Second, Mr. J. Mortimer. Third (extra), Mr. Shoebridge.

Apples, dessert, two dishes of eleven each.—First, Mr. Davis, gardener to W. Blackmore, Esq. Second, Mr. Wren. Third (extra), Mr. Shoebridge.

Apples, dessert, two dishes of six each.—Prize, Mr. Richards.

Apples, kitchen, two dishes of eleven each.—First, Mr. J. Mortimer. Second, Mr. Wren. Third (extra), Mr. Whittington, gardener to G. Brodrick, Esq., Hackbridge.

Apples, kitchen, two dishes of six each.—Prize, Mr. Richens.

Pears, dessert, two dishes of eleven each.—First, Mr. Davis. Second, Mr. Wren.

Pears, kitchen, two dishes of eleven each.—First, Mr. Jarvis, gardener to H. Jackson, Esq. Second, Mr. Davis.

Figs.—First, Mr. Jarvis. Second, Mr. Wren.

Plums, twelve, light.—First, Mr. Shoebridge. Second, Mr. Davis.

Plums, six, light.—First, J. H. Hay, Esq. Second, J. Clark, Esq.

Plums, twelve, dark.—First, Mr. Jarvis. Second, Mr. Shoebridge. Third (extra), Mr. Wren.

Plums, six, dark.—First, Master Jackson. Second, J. Clark, Esq. Third (extra), Mr. W. Morley.

Cherries.—First, Mr. J. Mortimer. Second, Mr. Holder.

Gooseberries.—Prize, Mr. W. Mortimer.

Red Currants.—First, Mr. Jarvis. Second, Mr. Inwood.

White Currants.—First, J. Clark, Esq. Second, Mr. Jarvis.

Collection of six dishes Dessert Fruit.—First, Mr. J. Mortimer. Second, Mr. Holder. Third (extra), Mr. Shoebridge.

Collection of six dishes of Kitchen Fruit.—First, Mr. Holder. Second, Mr. Shoebridge.

Miscellaneous.—First, Mr. Inwood, for Plums and Pears. Second, Mr. Davis, for Melons, Plums, and Nectarines.

There was a good collection of Nurserymen's productions, amongst which Mr. Ainsworth's Fuchsias, Gourds, and Marrows deserve notice. Messrs. Dod also showed here some choice Roses, Lilliums, and Caladiums. Specimens of the *Retinospora leptoclada*, in fine and healthy



condition, were amongst the latter. Mr. Morse also showed British Ferns and Dahlias; and Messrs. Cattell, Cucumbers, Peaches, and Plums in pots; *Lilium auratum*, *Clematis Jackmani*, and other plants and flowers.

The Judges were Messrs. Packman, Woodward, and Churchfield.

### PARTITION WALLS IN VINE-BORDERS.

ALTHOUGH much has been said and written upon the construction of Vine-borders, I have neither seen nor heard the least hint of the utility of partitions in them. It is common to see a range of vineries with a long border in front; and when a failure happens, either through some defects of the border, and it is wished to renew a part of it in front of one of the divisions, this cannot be done without the risk of injuring the roots of the Vines in the other houses; whereas, partition walls would keep the Vine roots of each house in the whole range of border within their proper space.

It is somewhat surprising that the great utility of so simple a plan seems to have been overlooked by intelligent gardeners. However, the plan did not occur to myself until lately, when I wished to renew a border in front of the centre house of a range of vineries, and I saw clearly that this could only be done at the risk of cutting off some of the roots of the Vines in the other houses, as already noticed. Partition walls for small borders may be 4 inches thick, of brick laid in cement upon good foundations below the level of the bottom of the borders; but nine-inch ones with tops level with the surface would be best for large borders.

I may observe, that lately a friend asked my advice respecting a Vine-border which he had made inside the house, with a view of keeping the Vine roots from getting out into the cold clay soil, and the sides and bottom of which were cemented. I told him to break the bottom out, and put more rubble, stones, or brickbats below to drain off the water, otherwise his finely-constructed border would soon be like a stagnant tank, neither fit for the growth of Vines, nor of any other plants.—J. WIGTON, *Cossey Park*.

### DESTROYING GOOSEBERRY CATERPILLARS.

I HAVE tried an experiment this year in destroying caterpillars on Gooseberry bushes, and I have found it very effectual. I had three boxes made of light material, such as lathwood, large enough to cover good-sized bushes, and with one side open to receive the bush. Wherever I saw the caterpillars making their appearance I smoked with tobacco cloth. I fumigated each bush for six or seven minutes, and as I had the three boxes at work I was not long going over a large plot of bushes, fumigating every alternate one, and the result is that those that were smoked are quite free of caterpillars, and green flies too. On the trees that were not thus treated not a single leaf was left by the 1st of July. I may add that I have tried all the plans recommended in the Journal, but have found nothing equal to fumigation.—WM. MCGREGOR, *Gardener to Hugh McKenzie, Esq., Dundonnell, N.B.*

### BEDDING ANNUALS.

AFTER this long interval we beg to reply to an article that appeared in your impression of the 15th ult., under the above heading. Your correspondent "Monticola" is perfectly right in his remarks on the treatment of the especial subject—*Linum grandiflorum rubrum*, and had we been placed in the same position as himself—that is, having the entire control and arrangement of his own garden, we should, undoubtedly, have treated the plant in the manner he describes as his own. We were not, however, so favoured, and a little explanation of facts may, perhaps, moderate the effect of his deprecating voice, and place our effort, even in "MONTICOLA'S" eyes, on a better footing. In the beginning of April we received from the Council of the Royal Horticultural Society the acceptance of our offer to fill the ante-garden with annuals, the beds in which were to be cleared of Messrs. Henderson's Tulips by the middle of May. The whole of the stock required (some five thousand plants), with a few exceptions, which, however, do not include the *Linum*, were sown in single pots, plunged in the open ground, and treated as hardy annuals, being thinned out eventually to one or two plants in each pot. Under these conditions we calculated that the plants would be in a fit state for turning out by the time specified, and so they were; but delays on the

other side resulted in our accession to the clear beds being postponed until the first or second week in June. The hot and dry weather of the latter part of May was the occasion, to a great extent, of causing the plants to root through the bottoms of their pots, seeking for moisture lower down, which extruding roots were of course torn off on the removal of the plants for transmission to Kensington. The check thus given will, we think, account for the partial absence of success in the want of vigorous growth, and for the "undeservedly shabby" appearance of the *Linum* in contrast to its "gorgeous" display when treated by "MONTICOLA," who sows the seed where the plants are to remain, with the exception of a few thinnings transplanted when quite young. The same remarks will apply likewise to the other subjects introduced in the beds.

With a pertinacity, however, not unlike that which distinguishes the promoters of the Atlantic cable, we are prepared to stand our ground; and though thoroughly conscious that to compare a bed of annuals with a bed of Scarlet Geraniums will, "sure as fate," for brilliancy, give the palm to the latter, yet hearty and colour are not essentially synonymous, and we are persuaded that, by successive sowings, good culture, cutting off all dead blossoms—in fact, bestowing similar care upon them as is devoted to "bedding plants" proper, annuals may be made to produce an effect, of which, perhaps, comparatively few would think them capable, and which would even give many of them a reputation of some distinction as bedders. Let the truly fine display which may be annually witnessed on the grounds of some of our seed-growers, be a perpetual example.—HOOPER & Co.

### HEDGE PLANTS FOR NEW ZEALAND.

In an answer to a New Zealand correspondent in your last Number a wish is expressed that some of your readers would give their experience on the subject of plants suitable for hedges in New Zealand, and now I beg to add my mite.

The Thorn *Acacia* forms in Australia a splendid and almost impenetrable hedge, and close from top to bottom, which can be said of few other plants grown there for that purpose, and where I have seen it, it must have been of rapid growth; but in some instances it is shy enough, particularly under the shade and shelter of a high paling.

Cape Broom grows very rapidly, and forms a nice enclosure if the seed is sown on deeply-dug ground, in two drills, 12 or 18 inches apart; then thin out the plants to a proper distance. Being free of thorns it is not a really good fence, but looks remarkably well. It must be quite common in New Zealand by this time.—W. JACKSON, *Ballyoran*.

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

SUCH ground as is now becoming vacant should be trenched up as roughly as possible, manure being applied if necessary; this should always be done as soon as the crops are off, whether the ground is wanted again immediately or not. *Broccoli*, where a sufficiency has not been planted, large plants may yet be put out with success, they should be laid in with a spade in a slanting direction; earth-up advancing crops. *Cardoons*, earth-up for blanching in favourable weather. *Celery*, continue to earth-up the early crops carefully, the tops of the plants should always be perfectly dry at the time; the crops that have not yet been earthed-up should be kept very moist. *Cucumbers*, those in frames, which it is intended to keep in bearing, should be covered up when the nights are cold, the beds should also be newly lined. *Cabbage*, plant the principal crop for spring use on ground well manured. The East Ham is a good variety for standing over the winter, it is not so apt to run in spring as other sorts. Prick-out into beds, a few inches apart, a large quantity of Cabbage plants, which have just expanded their first two rough leaves; they will be required in spring, for should the Potato disease continue to increase in virulence, the great blank which the loss of an esculent so universally esteemed will occasion must be filled up by extra quantities of other good vegetables, amongst which a fine early Cabbage in April or May meets with general favour. *Endive*, continue to blanch, and plant out from successional sowings. *Lettuce*, another sowing of the various sorts may be made; it is always better to have a superfluity in the spring than otherwise. *Mushrooms*.—Beds may now be made in sheds or

in the open air. *Parsley*, thin the summer sowing while in a young state, the plants will then gain strength to stand the winter. A portion of the spring sowing should be cut down. *Tomatoes*, gather the fruit as it ripens; remove all the shoots that shade it, also some of the leaves.

#### FRUIT GARDEN.

Give a final nailing to all wall trees, that there may be nothing to prevent the perfect maturation of the wood. See that *Strawberries* in pots for forcing next season are well cared for, placing them in an open sunny situation where they will have all the light possible, and do not allow them to suffer from want of moisture at the root. Where mulching has been used for Peach and Nectarine trees this should be removed at once, if not already done, for the fruit is seldom well flavoured if the roots are excluded from the action of the sun and air during the period of ripening. It will also be an advantage to have the fruit-tree borders free and unshaded by any crop at this season; the effect of planting *Endive*, *Turnips*, and the like is to keep the border cold and wet, when, in fact, warmth and air are more particularly required. We should be well satisfied to see the width of the borders reduced could even a more limited space be secured exclusively to the wall trees.

#### FLOWER GARDEN.

A surplus stock of bedding plants should always be provided against contingencies, the propagation of such as *Heliotropes*, *Verbenas*, and *Pelargoniums* should be proceeded with; as the general utility of these plants for decorative purposes is unquestionable, an ample supply of these is recommended. *Chrysanthemums* out of doors should be carefully staked; if against a wall, where they thrive better, they should be trained while the succulent shoots will bear it; propagate by cuttings for blooming in pots. Budded *Rose-stocks* should be carefully attended to just now, those buds which have started may be encouraged to form a more vigorous growth by stopping the wild branches of the stock. The routine of mowing and rolling must be pursued. Hedges may be clipped. *Auriculas* must be sheltered from bright sunshine, as well as from excessive rain, keeping the pots free from weeds, and occasionally stirring the surface of the soil with a blunt stick. Layers of *Carnations* and *Picotees* where sufficiently rooted may now be taken off the stools and potted. *Pinks* should be planted in their blooming-beds without delay.

#### GREENHOUSE AND CONSERVATORY.

Many may hesitate in the work of introducing the house plants while the promise of a late autumn is before them. It is dangerous to trust anything to the weather at this period of the year; therefore, housing tender plants must proceed until the whole stock is reinstated in its winter quarters; but where the opportunity of partial protection exists, many hardwooded plants may, with advantage, be allowed to stand out until the end of the month. Let each plant be carefully examined before housing, and defects in the soil or drainage of the pots remedied. Clear off moss, remove insects, and replace stakes. Climbers will always require attention to keep the shoots in their proper places; take care in training that the part of the trellis or stakes nearest the bottom does not become bare of flowering shoots, as the beauty of the plants depends upon their being clothed with foliage and flowers from the rim of the pot upwards. Pot off small seedling *Calceolarias* into small pots, and keep them close in a frame for a few days. *Luculias*, and other winter-flowering plants growing in the border, must be freely exposed to light and air in order that the growth may be well ripened, and to insure a fine display of bloom.

#### STOVE.

Where there is but one house for the accommodation of tropical plants, considerable care and attention are necessary to properly manage them at this season, as some, having completed this season's growth, require to be kept cool and rather dry in order to ripen the wood, while others in free growth require to be encouraged with warmth and moisture. If there is no convenience for removing to a cooler house such plants as have made their growth, these should be placed together at one end of the stove, keeping them sparingly supplied with water at the root, and giving air rather freely, which will generally serve to prevent any attempt at a second growth; and those requiring to be kept warm and moist should also be placed together at the opposite end of the house, where very little air should be given, using every care to keep the atmosphere about them moist. *Allamandas*, *Clerodendrons*, &c., which have done blossoming, may be removed to ainery where the *Grapes* are ripe or ripening, for as they will require very

little water, they will not do much mischief in the way of causing damp, and their room in the stove will be found useful for other plants. See that everything is free from insects, and keep the foliage of such plants as *Ixoras*, &c., clean by washing with a sponge and soapy water when necessary.

#### PITS AND FRAMES.

*Violets* should be potted or planted in a frame, *Mignonette* thinned and sown, *Hyacinths*, *Tulips*, and other bulbs potted and plunged, *Pinks* for forcing encouraged, and *Cinerarias* duly attended to. *Roses* in pots should occupy a fair share of attention. Some frames should now be in readiness for the reception of Alpine plants in pots, especially the more delicate species, to remain for the winter; this should be done as speedily as possible in case a wet season should set in, which would be certain destruction to this humble but interesting class of plants.—W. KEANE.

### DOINGS OF THE LAST WEEK.

A FEW fine days have again come, causing the cut grain so to rattle with the fork, as to lead some of our impatient farmers to regret that they did not use a little patience and wait, instead of carting home the valuable grain in a damp state. In very damp seasons much may be done by building small instead of large stacks, and having inside an open framework in the shape of a cone, so that a draught of air may freely pass through the centre. It was the fashion at one time to talk about Ireland, and its deplorable backwardness in agriculture and everything else. Very probably in our short visit some years ago (and we have yet heaps of notes unused for want of time) we might see only specimens of the best farming, and the most economical management, but in the farms we did see, we do not recollect observing a single stack of valuable grain built on the ground. If nothing more substantial was to be had, stout stakes of wood, some 2 feet above the ground level, were fixed in the ground; on them pieces of zinc, tin, or galvanised iron some 12 or 15 inches square were fastened, and on these, from post to post, the rough wooden framework was placed; neither mouse nor rat could then pass the horizontal out-jutting smooth iron. With such a contrivance, and an open cone in the centre, there could scarcely be danger from damp, mildew, or heating, even in bad seasons. Though anything but timid, we have at times felt a little alarmed at the armies of rats, not to say legions of mice, that retreat from a wheat-stack when it is taken down after being built on the open ground. In many cases, the rats get more than the farmer does for all his labour, and the aroma that is left behind must be anything but in favour of the grain at the market. Huge lumbering barns, whether of brick, stone, or wood, are going out of favour, as the building and keeping them in repair told either upon the profits of the leasehold farmer, or on the rental of the landlord. We have met with cases in which keeping up such and sundry buildings left nothing in the way of a rent-roll. That is no reason why stacks should not be built above the ground, so as to be safe from vermin, or, what in the end would be vastly more economical, be stored in Dutch barns—that is, with solid sides of wood or brick some 2½ feet from the ground, and open thence to the roof, whether that was formed of tiles, slates, or wood and asphalt. The barn would only cost the expense of a few years' thatching, and the expense of thatching would be altogether saved in future. Even for hay, it would form the cheapest plan. If the roof were lofty, in other words if the sides were open for 15, 20, or more feet, the grain would be still more safe than in a stack, and might be thoroughly secured against any wet at the sides, by keeping the ear ends of the sheaves elevated instead of horizontal in building. A strip of zinc or galvanised iron about 15 inches wide along the sides, would effectually keep out all intruders, and any vermin that found their way in would either be taken in with the sheaves, or be forced to run a mine below the building. Fine examples of elevated stacks, and of a Dutch barn, wonderful for its size, may be seen at the farm of Lutou Hoo, the farm buildings and conveniences there being, we believe, as yet unequalled in this or any other country.

#### KITCHEN GARDEN.

The change in the weather has led to something like a contest between the lawn and the kitchen garden, the heavy rains having made the former grow wonderfully, so as to be in most places beyond the power of hand machines, whilst small weeds have come up very thickly in the latter wherever there was



room for them to show themselves. As is generally the case, being unable to do all that was necessary, we made a compromise of the matter; and after making all tidy near the mansion we went through with a Dutch hoe the most conspicuous parts of the kitchen garden, and where very prominent, contrary to our usual practice, we ran a rake over the ground, just to remove any weeds above 3 inches in height, and to expose the others more to the sun. In any patches extra thick, the quickest and best way to put them out of sight is just to turn them by a shallow shovelling rather than digging—holding the spade in a nearly horizontal position, or almost parallel with the surface of the ground, and only making it go 3 or 4 inches deep. Even in softish walks this is the quickest plan to clear any very green part. Hoeing and raking is of little use in the autumn unless you are sure of some days' sun; and though salt would soon settle the matter by killing all above ground, it will act as a stimulant to future crops; and if the walks are smooth on the surface—that is, very fine and smooth for thin-soled slippers in summer, they will become retentive of moisture, and be apt to be sloppy in muggy weather in winter.

Some of our correspondents have been doing what we hope is rather unusual—reading up some of our old forgotten articles, at least forgotten by ourselves; and this question of *salting walks* is a matter which seems to them deserving of more notice. We shall endeavour to meet their wishes by detailing our present impressions, based on practice and observation.

A wide walk in the kitchen garden, on which not a weed was seen three weeks ago, was becoming all over of a greenish hue, when you looked along it in the morning before the dew was dissipated. There being Box on each side, salt was thrown along, just enough to give it a regular white appearance, on Tuesday morning; it was brushed over on Wednesday forenoon, and now, on Thursday, hardly a trace of the salt is to be seen. The weeds, though small at first, are not quite out of sight yet, but another day's sun will pretty well accomplish that. Some friends salt close up to the Box edging; but we have good reasons for not doing so, and therefore leave a space unsalted of from 9 to 12 inches in width, which is weeded by hand in the usual way.

This is the only walk we have as yet salted, and it is different from most others. In the end of the spring it became a little green; and as we had no time to turn it, even if there had been depth enough, we gave it a deepish hoeing with the Dutch hoe when it was damp, and raked it several times when it was dry. The walk had been rather too smooth in winter, and therefore we left the surface rather rough; the gravel left there from the rake consisting chiefly of pieces from the size of Broad Beans to that of Walnuts. Even after several rollings the walk after dry weather would be a little rough to the feet; but from its very roughness it will be better to walk on in winter, as in scarcely any weather will it adhere to the feet, as a smoother walk would be apt to do. The effect of the salt will be to crack and split a number of the stones and pebbles, but we do not think that will be done to such an extent as to render the walk too smooth and moisture-laden for the winter. We can hardly obtain both advantages. The smooth-surfaced walk is the most pleasant in summer; one a little rougher on the surface, but firm withal to prevent the rains sinking in it, is the most serviceable in winter.

We ought here to state, that we have not followed the usual course with our flower-garden walks this season. These walks at first were made very shallow, and were scarcely ever broken on the surface. Every summer, as soon as the bedding was about over, even though few weeds were to be seen, we scattered a little fine salt along them, choosing the sunniest days for the work; then in about a couple of days or so, we threw along them a little fine gravel, or siftings of gravel, just enough to give a fresh appearance, and levelled either with a broom or the back of a rake, and after the first shower whisked over them with a broom and then rolled them down. The salt was partly absorbed by the old and partly by the new surface, and the slight sprinkling prevented anything like softness until the end of the autumn. If any person over-critical happened to be in the way, the slight fresh covering neutralised the white colour of the salt. By such management our walks were generally in good condition all the summer and autumn, and as they were not greatly used in winter, no objection could be taken to them. Last winter, however, they were more used, and after frosts, thaws, and rains, they were more sloppy than we wished to see them. With the exception of the fresh dustings of siftings, they had never had any gravel for more than twenty years, and we have no doubt that the salt had

eaten down into and converted into powdery material all the little stones near the surface. Walks to be used much in winter are, therefore, none the better of being over-smooth on the surface, unless, indeed, the surface should have a thin covering of pure sand, that would be little influenced by frosts and thaws. There is no doubt a great difference in gravels, but good gravel is often very difficult to obtain in some neighbourhoods. The above is about the easiest mode that we have met with of keeping walks nice; but until we had more rough material near the surface we should not like to use much salt for fear of its effect in retaining moisture in winter. With roughish gravel it may be more freely used.

So much have we noticed the effects of salt, soda, &c., in eating into, reducing, and turning the hardest stone into dust, that we would repeat the caution long ago given, not to use salt on gravel near any building or wall of stone, &c. We cannot well pronounce on the distance to be safe; but it would be well not to go nearer at least than from 4 to 6 feet. It is amazing how salt thrown down on gravel, close to the walls of a house, will find its way into these walls, mount upwards, and crumble the stone as it goes. It is safest used on walks bordered by grass edgings. We once saw a fine stone curb for flower-beds shelling off in laminae and crumbling away, and the circumstance was considered unaccountable. We have not a doubt that the salting of the walks did the mischief. We did not require to be told of the salting; the sight of the clear almost crystalline-like gravel was enough. Salt, therefore, even as a weed-destroyer should be used with caution.

Once more as to the mode of applying salt. We prefer the simplest and the most economical. Be the kind of salt rough or smooth, white or discoloured, it is malleted, and made to pass through a fine sieve, and then scattered with the hand or small shovel as thinly and evenly as possible over the gravel, so as to leave salt everywhere. We would sooner go a second time than put on too much, owing to what we have said above as to its moisture-retaining qualities. So much for the mode, now as to the time. That should be in a sunny day, and when our own feelings, as well as the barometer, lead us to expect that the weather will be dry for several days. The longer the salt appears on the surface, the more thoroughly it will act; but even under the above circumstances, the white appearance will not last long. The sunny day is generally followed by dew at night, and the weeds and the gravel absorb the liquefying salt slowly, but more thoroughly, than if more quickly liquefied. Of course, if put on before rains, the salt is carried to the sides of the walk, and into the drains, and if there are Box edgings woe-betide them, unless well elevated. Whilst the salt lies no one should step from the walk to the lawn, or every step will leave a black mark. Ladies and gentlemen generally dislike the white appearance, and, therefore, a time should be chosen when they are not likely to see it. If done along with a fresh surfacing, as detailed above, that objection would be considerably obviated. In our pleasure grounds we should use little this season, but if much green should appear for a few inches at the sides of the walks, we shall use it there in preference to weeding. But for making walks too fine, and too retentive of moisture in winter, there is no plan for keeping them bright and clean in summer that would be equally economical. We prefer for similar reasons of economy using the dry salt at once. We have no objection to urge against those who prefer using the salt melted in either cold or boiling water; but salt for salt, we believe we obtain as much benefit from the dry salt as from an equal quantity either in hot or cold water. Of course, the former acts more quickly, and those who prefer a machine for boiling the water and the salt, may well carry out their own views. The amateur may do all he wants by merely sowing the salt, and keeping his feet from going on grass afterwards.

As soon as possible we shall run the fork through recently-planted Cauliflower, Broccoli, Coleworts, young Spinach, Onions, &c., as the heavy rains have battered the surface, and these crops will be all the better of a little air being let in amongst the roots. About the time this is printed, we shall sow Cauliflower for the first crops next spring. A little rough sand is a good thing to throw over the surface, as slugs and worms dislike it much. Cut Basil, Marjoram, &c., for drying. Will take Onions under cover ere long. If merely kept dry they will not suffer from frost. See what has recently been said of Mushroom, &c. Will turn over, by trenching, part of the Onion ground for Cabbages. Most probably we shall put on a lot of rotten grass, &c., as a manure, but that will be placed some 18 or 24 inches from the surface, so as to tell on the plants

next summer. The plants will stand all the better from the surface soil not being over-rich. Gathered Dwarf Kidney Beans and Runners, rather to insure continued fruitfulness. For those coming into bloom will have some rough covering ready to throw over them in any cold night.

#### FRUIT GARDEN.

Much the same as in the previous week. All fruit out of doors is much earlier this season than usual. Have gathered lots of Jefferson's Plum from standards for preserving, and late Peaches, &c., are coming in. One great advantage of orchard-houses is, that in a forward season like this you may prolong the season, by keeping the house with abundance of ventilation, so as in fact to make it cooler than the out-door temperature. If ever we should get the chance we would have a cool glass house for such Plums as Reine Claude de Bavay and Coe's Golden Drop, as, in many seasons, we believe they could be thus had beautifully coloured, and rich in flavour up to November. Jefferson on standards are now ripening freely out of doors. Removed a few secondary shoots from dwarf Pear trees, and gathered the riper Apples, as Red Quarrenden, Kerry Pippin, &c. Looked over Vines, as detailed last week. Peaches are better of being gathered before quite ripe, and allowed to lie for a day or two on clean white paper, with, perhaps, a very little clean, sweet, dry hay beneath the paper. They will hardly lie on a hard substance without being blemished; and some kinds, as Noblesse, when nearly ripe, will not stand handling. We have seen well-meaning people fingering such fruit as they went along. It is much of a piece with a gentleman pulling off the blooms from the points of Cucumbers, or a lady going through a vinery, and nipping a number of berries out of each bunch to which she had access.

#### ORNAMENTAL DEPARTMENT.

To put matters right after the rains, we have been obliged to leave cuttings and potting for a little, and go on picking the beds, getting lawns shorn, rolled, &c., and switching and rolling the walks. The few days' sun has done wonders, but last night there was much sheet lightning, and there is a tendency downwards again in the barometer, so that unless there be a fortnight of fine weather, we fear that the great attraction of the flower garden this season will have been past with the end of July.

We remembered some time ago how brilliant a row of the Golden Chain was, but it being on the north side of a ribbon-border that faced south and north, with a ridge in the middle, the rain has punished it very severely, whilst in more open places and with nothing higher above it, it still remains very good. We find, also, that beds in such changeable weather suffer in proportion to the earliness of the time they were a mass of flower. All our first-planted-out beds have suffered most, and though a great many blooms have opened within these two days, it will require a number of days to restore their former brightness. Later-planted beds, and which were just arriving at their best, have suffered less from the wet. The gardens, therefore, that were late in July, are likely to be better in September than those which very good in the beginning of July. It is not easy, irrespective of the seasons, to have them first-rate at both seasons. To have a fine show in the beginning of July or the end of June, presupposes thick planting; but that thick planting without much pruning and disleafing, especially in such a season as this, will be sure to encourage more foliage than is desirable. It is amazing the difference as respects brightness between beds fully exposed and those protected, even on one side, from wind and rain. One annual, with the exception of being double the height it was last season, has given great satisfaction. We suspect it is the same as that designated *Tagetes signata*, by our friend Mr. Robson, at page 164, or something in that way, but which we call *Tagetes tenuifolia pumila*. The *Tagetes tenuifolia* is a free-flowering single Marigold, growing from 24 to 30 inches in height, and with beautifully cut fern-like foliage. The dwarf variety, *pumila*, was a dense mass of orange-mottled flowers last season, and scarcely more than 6 inches in height. This season we have a row of it, but it is fully a foot in height, in some cases quite 14 inches, but in some other cases not more than 9 inches. Many have taken a note of it, as a substitute for *Calceolarias*, &c. Even this annual, however, is influenced greatly by position. Part of the line referred to is pretty well exposed, and especially to the west. Another portion is partly sheltered by the mansion, at the distance of some 50 feet or more. In the first position the plants are higher, from receiving more rain we imagine, and though there is an abundance of flowers, a good

many of the pretty leaves peep through them. In the more sheltered part the plants are lower and are a dense mass of bloom with scarcely a leaf to be seen, except at the sides. It bears the pruning-knife well, and, therefore, is easily kept uniform. The colour is all right enough, but the fastidious must not meddle with it, as it emits, especially when touched, the strong Marigold scent. For beds to be seen a little way off, it may well take the place of the orange-coloured *Calceolarias*.

Just like Clover in some fields, no doubt some gardens are becoming *Calceolaria*-sick. A gardener told us the other day, that though he moved the soil from one bed into another every year, his *Calceolarias* would fail every year. We merely plant in different beds, as we have never yet attempted to change or freshen the soil. Rotation-cropping is the next best. *Calceolarias* on the whole have done well. The time when we had any trouble with ours was in the spring, the roots would not flourish in the cold pit in which the cuttings were inserted in the autumn. We believe it was owing to using old effete soil mixed with some fresh.

*Chrysanthemums* in large plants will want well and frequent watering. Rains must not be depended on, as the showers are thrown by the heads past the pots. Heaths and Epacris, and the most forward *Camellias*, should now be placed under cover, as excess of wet will injure them for the winter. The more all house plants are gradually hardened in their wood, the better will they pass the winter.—R. F.

PRIZES FOR WINDOW GARDENING.—Mr. Walter H. Bosanquet has agreed to act as Hon. Secretary of the Window-gardening Committee of the Royal Horticultural Society, and to undertake the sole management of the Society's next exhibition of window gardening by the working classes. This involves the collection of the funds required for the prizes, and at least £150 will be needed. Subscriptions in aid of this praiseworthy exhibition will be very acceptable, and may be sent to W. H. Bosanquet, Esq., 22, Austin Friars, London, E.C.

#### COVENT GARDEN MARKET.—SEPTEMBER 2.

THE market is now overstocked with Peaches and Nectarines. The prices of these are consequently lower than they have been for some years.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	1	0 to 2	0	0	0	0	0
Apricots.....	doz.	0	0	0	0	0	0	0	0
Cherries.....	lb.	1	0	2	0	0	0	0	0
Chestnuts.....	bush.	0	0	0	0	0	0	0	0
Currauts, Red ½	sieve	3	6	5	0	0	0	0	0
Black.....	do.	4	6	6	0	0	0	0	0
Figs.....	doz.	0	9	1	6	0	0	0	0
Filberts.....	lb.	0	9	1	0	0	0	0	0
Cobs.....	do.	0	0	0	0	0	0	0	0
Gooseberries. ½	sieve	0	0	0	0	0	0	0	0
Grapes, Hambro..	lb.	1	6	4	0	0	0	0	0
Muscats.....	lb.	3	0	6	0	0	0	0	0
Lemons.....	100	8	0	14	0	0	0	0	0
Melons.....	each	2	0 to 5	0	0	0	0	0	0
Mulberries.....	punnet	0	6	1	0	0	0	0	0
Nectarines.....	doz.	0	9	6	0	0	0	0	0
Oranges.....	100	10	0	20	0	0	0	0	0
Peaches.....	doz.	1	0	8	0	0	0	0	0
Pears (kitchen)..	doz.	0	0	0	0	0	0	0	0
dessert.....	doz.	1	0	2	0	0	0	0	0
Pine Apples.....	1 b.	3	0	6	0	0	0	0	0
Plums..... ½	sieve	1	0	3	0	0	0	0	0
Quinces..... ½	sieve	0	0	0	0	0	0	0	0
Raspberries.....	lb.	0	0	0	0	0	0	0	0
Strawberries.....	lb.	0	0	0	0	0	0	0	0
Walnuts.....	bush	14	0	20	0	0	0	0	0

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	each	0	4 to 6	0	0	0	0	0	0
Asparagus....	bundle	0	0	0	0	0	0	0	0
Beans Broad..	bushel	0	0	0	0	0	0	0	0
Kidney.....	do	3	0	5	0	0	0	0	0
Beet, Red.....	doz.	2	0	3	0	0	0	0	0
Broccoli.....	bundle	0	0	0	0	0	0	0	0
Brus. Sprouts. ½	sieve	0	0	0	0	0	0	0	0
Calbage.....	doz.	0	9	1	6	0	0	0	0
Capsicums.....	100	2	0	3	0	0	0	0	0
Carrots.....	bunch	0	4	0	8	0	0	0	0
Cauliflower.....	doz.	3	0	6	0	0	0	0	0
Celery.....	bundle	2	0	3	0	0	0	0	0
Cucumbers.....	each	0	4	0	8	0	0	0	0
pickling.....	doz.	2	0	4	0	0	0	0	0
Endive.....	score	2	0	3	0	0	0	0	0
Fennel.....	bunch	0	3	0	0	0	0	0	0
Garlic and Shallots, lb.	0	8	0	0	0	0	0	0	0
Herbs.....	bunch	0	3	0	0	0	0	0	0
Horseradish..	bundle	2	6	4	0	0	0	0	0
Leeks.....	bunch	0	3 to 6	0	0	0	0	0	0
Lettuce.....	per score	0	9	1	6	0	0	0	0
Mushrooms....	pottle	2	6	4	0	0	0	0	0
Mustd. & Cress, punnet	0	2	0	0	0	0	0	0	0
Onions.....	doz. bunches	3	0	0	8	0	0	0	0
pickling.....	quart	0	6	0	6	0	0	0	0
Parsley..... ½	sieve	1	0	1	0	0	0	0	0
Parsnips.....	doz.	1	0	2	0	0	0	0	0
Peas.....	quart	0	9	1	6	0	0	0	0
Potatoes.....	bushel	2	0	3	0	0	0	0	0
Kidney.....	do.	3	0	4	0	0	0	0	0
Radishes doz. bunches	0	6	1	0	0	0	0	0	0
Rhubarb.....	bundle	0	0	0	0	0	0	0	0
Savoy.....	doz.	0	0	0	0	0	0	0	0
Sea-kale.....	basket	0	0	0	0	0	0	0	0
Spinach.....	bushel	3	0	4	0	0	0	0	0
Tomatoes.....	doz.	2	0	3	0	0	0	0	0
Turnips.....	bunch	0	4	0	6	0	0	0	0
Vegetable Marrows dz.	1	0	2	0	0	0	0	0	0

#### TRADE CATALOGUES RECEIVED.

William Paul, Waltham Cross.—*Select List of Hyacinths, Early Tulips, Crocuses and other Spring-flowering Plants.*

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Bulbous Flower Roots and Tulips.*

J. Carter & Co., High Holborn.—*The Gardener's and Farmer's Vade Mecum—Part IV. Dutch and Cape Bulbs.*



## TO CORRESPONDENTS.

\*.\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

**RED SPIDER (An Orchard-house Amateur).**—The only advice we can give you is to gather your fruit as soon as possible after it is ripe, then if you have a large tub or cistern dissolve 5 or 6 lbs. of soft soap in about 10 gallons of water in which 3 lbs. of quassia chips have been previously boiled for ten minutes, then add as much water to this as will enable you to dip your trees in so that the whole of the wood and leaves may become well wetted with this bitter water. If this is repeated two or three times at intervals you will soon get rid of the pest. For the future keep your trees well syringed with a decoction of similar strength whenever the slightest signs of the enemy appear. Syringe your walls with the same mixture as that recommended above, add to it 5 lbs. of sulphur. After this the walls should be well coated over with a thick grouting made of lime cement, using the grounds of the quassia water to mix it with. This grouting should be well worked into the nail-holes &c. in the wall by daubing the brush several times against it.

**YELLOW TROPEOLUM (Clericus).**—We do not know a pure yellow in the way of elegans. If care is taken to remove a few leaves from yellow Tom Thumb, nothing of the colour can be more beautiful.

**LILUM ABRATUM CULTURE (J. B. Boyd).**—Pot it the end of October or immediately it goes to rest in turfy light loam two-thirds, and turfy sandy peat one-third, with a free admixture of silver or sharp sand, chopping up these materials with a spade; well drain the pot, which should be 7 inches in diameter, and on the drainage place the rougher parts of the compost. Half fill the pot with soil, then place the bulb in the centre of the pot, preserving the roots, if any, and spread them out towards the sides. Cover the bulb about half an inch, and give a gentle watering. The potted bulb may then be placed on a cool damp floor where it is not exposed to frost until the shoot pushes above the soil, when it should have a light and airy situation, be watered copiously, and top-dressed to within half an inch of the rim of the pot when the shoot is an inch or two above it.

**POMEGRANATE ON A SOUTH WALL (Idem).**—The reason of your tree not flowering may be its growing so freely and not ripening the wood. We should advise a trench to be dug round the tree at 4 feet from its base, and so deep as to cut through the roots, simply filling in the trench again. This would be best done early in October, and it would check the luxuriant growth. Keeping the shoots thin so that every part of the tree might be fully exposed to light and air would so far ripen the wood as to induce the tree to flower. It is probable that the roots have gone deep down; and, if so, in addition to opening out the trench, so undermine the root as to cut all roots that strike perpendicularly downwards at 18 inches below the surface.

**CHEILANTHES ODORA CULTURE (H. B. N. R.).**—This Fern is most difficult to cultivate. Half fill the pot with crocks, and have some nice sandy turfy peat chopped fine, pieces of sandstone broken to the size of a Walnut, and some sweet hazel or yellow loam. Mix them together in the proportion of two parts of the sandstone to one of the peat and loam, and if the very fine particles of the sandstone be sifted out all the better. In this mixture pot the plants rather high in the centre of the pots, and around them place pieces of sandstone, or rather plant so that they may appear growing from between stones, the pot being covered with these, and the loam and peat in the interstices. Give a good watering, and place in an airy and light situation in the greenhouse. This Fern will do best kept near the glass, and near the point of admission of air. If shaded from very bright sun until it becomes established all the better, and, though it will not grow in much shade, it is more free-growing when partially screened from the powerful mid-day sun. It is very impatient of stagnant moisture, and should never be very wet nor dust dry. It is only to be kept in cultivation by very careful culture.

**TRANSPLANTING RHODODENDRONS (Idem).**—The plants cut down last autumn, and which have made fine growth this season, may be moved now, or any time before November, during mild weather, taking them up with a good ball. Do not reduce the ball, but take them up and plant with as much soil as will adhere to the roots. Spring is the best time to plant Rhododendrons, and April the best month; but from the very nature of the root, which always secures their being removed with a good ball, they may be removed at any season, we having planted them from February to November, and in all stages of growth, in flower, making their growth, and when forming their buds, and with the greatest safety. Water well if the weather prove dry after planting.

**SOWING CYPRESS SEED FROM THE EAST (A Subscriber).**—Sow the seed next March in pans well drained and three-parts filled with light sandy loam, level the surface, and scatter the seeds thinly. Cover with light fine soil, and, after watering, place in a frame with a mild bottom heat (75°). When they come up, and before they become drawn, harden off and place in an airy part of the greenhouse, and near the glass. In the autumn, or spring of the second year, pot them off singly in small pots, and give them a shift annually afterwards. The seeds may be sown as above, and placed in a cool airy part of the greenhouse where they will vegetate as surely, though they may be longer about it. It is possible they might also vegetate in a cold frame, but as to whether they will be best in a frame, a greenhouse, or a hotbed, we cannot determine, not knowing either the species or its habitat.

**PROPAGATING GNAPHALIUM LANATUM (P. P.).**—Cuttings taken now and inserted in silver sand with their base at the least possible distance from sandy loam at the bottom of the pan or pot, will strike in a gentle heat. They strike more tardily now than in spring. A better plan is to take up the old plants in autumn, and winter them in a cool airy greenhouse. In February place in heat, and when the shoots are sufficiently long these may be taken off with three or four joints, and treated in the same way as Verbenas, like which they strike freely. They require a light sandy soil.

**SEEDLING PELARGONIUMS NOT FLOWERING (J. B. C.).**—You may expect the seedlings to flower with the general stock next May or June. They do not usually flower in the same year as that in which the seeds are sown, and it is not desirable, for the flowers of Pelargoniums are never so fine in autumn as during the early summer months, and a good flower might be discarded from its not being in character when flowering for the first time in autumn. There will be no difficulty in making them flower another year, but we know of no plan that would force them into flower this year. We would cut the plants down now to three or four eyes, and when broken, and the shoots about an inch long, pot them, as they are now in very small pots, into a size larger, giving them their final shift into six-inch pots in December. In other respects the treatment need not differ from that of named sorts.

**CALIFORNIAN PUMPS.**—If 'WEST CROYDON' send to Mr. Benson, 17, St Dunstan's Hill, Tower Street, E.C., London, he will send him a list of places where they are in use. We have had one in use here for a month, and, so far, it works very satisfactorily pumping hot liquor. It is a four-inch pump, and we work by an engine, but all the pumps are made to work by hand.—W. N. BAXTER, Thornton-le-Moors, Northallerton. "The Californian pump is very simple. It is a common square spout of any length that may be required, about 4 inches by 4 inside with two rollers, one at top and one at bottom, with an endless strap to pass round the rollers. Blocks of wood are screwed on the strap at intervals, and the strap being turned with one or two cranks the water is brought up.—H. FEEK, Builder, Brooke, Norwich." [By this it appears that the Californian pump is only a form of the chain pump.]

**OUVRANDRA FENESTRALIS CULTURE (A Young Subscriber).**—Your treatment is very nearly right, and we shall, perhaps, best meet your wishes by giving the essentials of its culture. Broad glass pans, from the light transmitted through the sides allowing of the structure of the leaves being perfectly seen, are the most suitable. A compost of turfy peat and half the quantity of decayed turf is placed at the bottom of the glass to the depth of 3 inches, and on this from one-half to three-quarters of an inch of river sand. The sand prevents the water from being discoloured when the plant is syringed or fresh water put in, and the leaves from becoming dirty. The plant should be syringed every morning with water of the same temperature as that in which it is growing. This watering with the syringe frees the leaves of any sediment that may adhere to them, and prevents slimy moss forming in the water, in addition to which the sides of the glass vessel should be rubbed occasionally to keep them clean. The soil should all be taken out once a year; March being a good season. When the soil is left in too long the leaves grow smaller and weaker. The plant requires a temperature of from 70° to 75°. The main points are keeping the leaves free from dirt, and all about the plant sweet. These conditions secured, the Ouvrandra grows freely.

**GARDENERS' WAGES, &c. (An Under-Gardener).**—We have already given considerable latitude to all the matters to which you allude. Some strong comments, on the impropriety of making gardeners live in the mansion, and discouraging marrying, and settling down with families, we have reasons for believing did the intended good in many quarters; many gardeners' houses being built where none formerly existed on the demesne. We would wish to see the word "incumbance," as applied to wife and children, banished amongst the deservedly forgotten things of the past. Meantime, gardeners will do well to act with prudence. All our experience leads us to have no faith in strikes, or unions, among either under-gardeners or head-gardeners as a means of improving their condition. So long as young lads are taken into some large establishments, and struck as it were by cuttings, and then sent out in shoals on the labour market, it will be of little use to combine for raising wages. Besides, if young gardeners were to strike to-morrow, and refuse to work, common labourers might soon fill their place, and the gardeners would have to find something else to do. That, however, is no reason why better wages should not be given, or why, if shorter hours cannot be made the rule, there should not be an occasional holiday. As to head-gardeners, we have never yet known them to have cohesion enough to agree upon anything, even for their own good. This, no doubt, is partly owing to their isolated and scattered condition. A number of years ago, a gardeners' paper was started, conducted pretty well for nothing, and the whole profits to be given to the aged and afflicted. The paper could only go on by subscriptions being paid in advance; but even that could not be done. Some gentlemen, as Mr. Thomson, of Dalkeith, could tell what may be expected from unity, and its strength among gardeners. The difference to which you allude between mechanics and gardeners as to wages, is often more apparent than real. Suppose in the country an under-gardener has from 15s. to 18s. or more per week, and a mechanic has £1, the gardener has his lodging and constant pay, whilst the mechanic has often lost-time for months, and tools to buy and keep. A head gardener is generally in a better position than the generality of mechanics. Of course, we are not alluding to wages in London, where lodgings, &c., are expensive. Besides, a mechanic after serving his time, &c., unless he has capital, has little chance of bettering himself, but the young gardener, if he has a few hardships, lives in the hope of bettering himself by becoming a head gardener. On the whole, as we have previously stated, gardening at present offers few inducements for any of the middle classes to engage in it; but for the sons of mechanics, and even of labourers who will patiently work, study, and wait, and submit to some amount of self-denial, it offers a medium for improving their circumstances, and rising in even the social position. Were there fewer professed gardeners, and were these all men of superior attainments to what as a class they are now, an improved social position would follow as a matter of course. We should be only deceiving young men by false hopes, if we did not express our conviction, that the upward progress of the profession even as respects remuneration, will be greatly regulated, just as the conviction gains ground among employers, that an intelligent active gardener may be a much cheaper servant at £100 a year, than an ignorant, careless man, who is content with £50. Nothing surprises us more than gentlemen often parting with a good man when a few pounds more would keep him.



**DOUBLE FUCHSIA (W. Brown).**—Your seedling double Fuchsia is a very fine one; the broad, bright, well reflexed, scarlet sepals are very effective; the dark corolla smooth and full. If the plant is of good habit, has good foliage, and is free flowering, it will be very useful as a decorative Fuchsia.

**PLANTING LILIES OF THE VALLEY (A. R. C.).**—The best time to plant them is immediately after the foliage decays, or from that time, in mild weather, up to the end of March, but the earlier the better. Give them room and a liberally manured soil if a profusion of fine flowers are desired. We cannot tell the name of the plant from the seed vessel sent.

**SEEDLING VERBENA (W. E.).**—It was so withered when it reached us that it was impossible to pass any opinion on its merits.

**SEEDLING GOOSEBERRY (Gooseberry).**—Your seedling Gooseberry has not sufficient merit to recommend it.

**GOLDEN PIPPIN (G. K., Sevenoaks).**—We are in doubt whether the specimens you have sent are the old Golden Pippin or not; they appear very much like the Yellow Ingestrie which was raised from the seed of the old Golden Pippin.

**VIOLA CORNUTA (Emma M.).**—See what Mr. Wills says in another page.

**FLOWER-GARDEN PLANTING (Old Subscriber).**—We do not plant beds, we merely criticise planting, but we will so far deviate as to give the following for your group of nine beds:—1. Centre, *Boule de Feu* Geranium or *Stella*, with border of *Centaurea candidissima*, or *Cineraria maritima*. 2, 4. *Tom Thumb* *Calceolaria*, or *Yellow Prince of Orange*, or some other low-growing yellow kind, with *Charlwoodii* purple *Verbena* as an edging. 3, 5. *Anrea floribunda* *Calceolaria*, with a good band of *Lobelia speciosa*. 8, 9. *Tom Thumb* or *Brilliant* Geranium, with a border mixed with white *Variegated Alyssum*, and blue *Lobelia*, as a compen. 7, 8. *Christine* Geranium, with a border of *Paxtoniana* *Lobelia*, mixed with *Cerastium tomentosum*. We have no doubt this group would give satisfaction if the bordering were well managed. We would change the planting every year. Our proposed mode would suit either grass or gravel.

**SELECT GLADIOLUSES (Agaricus).**—The lists of "D. Deal," in this and last week's Number, will, we think, answer your purpose.

**WHITE DOUBLE-COROLLED FUCHSIAS (F.).**—Charles Heineman, Emperor of the Fuchsias, Jean Verschaffel, Madame Cornelissen, Victor Cornelissen, and President Boisduval, are half a dozen fine varieties. The flower enclosed was quite withered when it reached us.

**ACHIMENES FORMING IMBRICATED BUDS ON THE STEMS (A. C. C. H.).**—It is not unusual for *Achimenes* to form these in the axils of the leaves after flowering. They will fall on the pot when the foliage decays, and may be employed for an increase of the stock, but the best are those that form in the soil; and of them there is generally a sufficient stock without being at the trouble of potting those formed at the axils of the leaves.

**SEEDLING GERANIUMS NOT BLOOMING (Idem).**—Your seedlings, judging from their height and fine foliage, are in too rich compost. They cannot be induced to flower this season. You will, therefore, have to keep them until another year, when, by keeping them under-potted, their vigour would be so far checked as to cause them to flower. Over-potting seedlings gives abundance of foliage, and rich soil contributes to the same result. Keep over the winter, and when the time for planting out arrives, plunge the pots in an open and sunny situation. They will certainly flower next year.

**NAMES OF FRUIT (Tyro).**—Your Apple is Sugar-loaf Pippin. (*Quis*).—Plums—1, Washington; 2, Kirke's; 3, Coe's Golden Drop; 4 and 5, Jefferson. Apples—1, Emperor Alexander; 2, Surrey Flat-cap; 3, Duchess of Oldenburgh. We do not recognise the Pear; send it again when ripe. (*Orental*).—Your Grape is undoubtedly Black Hamburgh, suffering from languid root-action. What state is the border in? and is the crop not too heavy? (*G. K., Sevenoaks*).—The Peach is Barrington, and the Nectarine Elruge, and the Plum Fotheringham.

**NAMES OF PLANTS (P. P. P.).**—It is an *Hedychium* and we think the *H. Gardnerianum*, but the flowers were shrivelled up. Some damp moss should have been in the box. (*S. R.*).—1, *Polypodium vulgare*; 2, *Lastrea Filix-mas*. (*J. B.*).—1, *Woodwardia caudata*; 2, *Pteris hastata macrophylla*; 3, *Adiantum fulvum* (?). (*Kerse, Fotherkirk*).—*Momordica charantia*. (*D. H.*).—*Viola canina*. (*G. S. Wintle*).—*Spiranthes autumnalis*. (*J. B.*). 4, *Buddlea Lindleyana*. (*Capt. Davies*).—*Cotyledon orbicularis*. The spore must have come in by some means—perhaps in watering. (*R. C. A.*).—*Gypsophila paniculata*, *Erica ventricosa*. (*Rap*).—1, *Pittosporum tenuifolium*; 2, *Francoa ramosa*. (*Bromley, Kent*).—*Polystichum capense*. No. (*Old Subscriber*).—*Lastrea spinulosa*; *Athyrium Filix-femina*. All depends on the age of the beds; for the first two or three years dwarf-growing vegetables may be cultivated, but afterwards no other crop should be allowed to interfere with the *Asparagus* on the beds. (*G. T. M. Purris*).—The *Kidney Bean* sent was sent out some years ago under the name of the *New Zealand Bean*, to which country it had been taken from Europe. It is, we believe, identical with the *Haricot de Prague jaspé*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 2nd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 27	30.216	30.161	82	50	64	62½	S.	.00	Slight haze; overcast; very fine and hot; fine.
Mon. . . 28	30.227	30.133	71	49	65	63½	N.	.01	Rain; overcast; cloudy; fine.
Tues. . . 29	30.078	29.950	68	40	64½	63	N.W.	.00	Overcast; very fine throughout.
Wed. . . 30	29.975	29.944	73	39	63	62	N.	.00	Clear and cool; very fine; cool at night.
Thurs. . 31	30.139	30.060	81	50	64	62	W.	.00	Fine; hot; fine throughout.
Fri. . . 1	30.146	30.094	80	52	64½	62½	N.W.	.00	Slight fog; very fine;
Sat. . . 2	30.163	30.083	84	47	64½	62½	W.	.00	Fine, with clouds; hot, and very fine.
Mean..	30.143	30.051	77.0	46.71	64.21	62.57	....	0.01	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### HALIFAX AND CALDER VALE AGRICULTURAL SOCIETY'S POULTRY SHOW.

The above-named Society held their twenty-seventh Annual Exhibition in Clare Hall Park, Halifax, by the kind permission of Joshua Appleyard, Esq., on the 26th of August.

The entries of Poultry and Pigeons numbered 640, and comprised representatives from many of the leading breeders and exhibitors, nearly every class containing specimens of great merit. The whole were shown in open pens belonging to the Society, and the day being exceedingly fine, the success of the Show was insured. The arrangements of the Committee and Honorary Secretary were admirable, and the Meeting was completely successful, financially, as well as in other respects. The Judges commenced their arduous duties at much too late an hour—namely, about 11 o'clock, which, considering that the Exhibition closes at 6 o'clock, and that the public are necessarily excluded from part of the ground until the decisions are given, is an arrangement, we think, only requiring notice to be remedied, and we feel sure Mr. Irvine is too watchful of the interests of the Society not to profit by the hint we give.

*Spanish*, as usual, headed the list. The first prize-pen in adults, we thought, were very considerably indebted to their feather for the position they obtained. *Spanish* chickens were good. *Dorkings* were not numerous, but chickens were better represented, the first-prize pen being very fine. In *Buff Cochins*, Capt. Heaton occupied his accustomed position in a good class; and in chickens the same exhibitor had to succumb to a pen shown by Messrs. Brown & Greenwood, containing a remarkably fine-shaped, good-coloured cockerel, very indifferently accompanied, which changed ownership at £10 10s. In *Cochins*, any other variety, old and young respectively, capital Partridge carried off the principal prizes. *Brahmas* were fair classes. For the best Single Game Cock,

or Cockerel, the Committee offered a silver cup, value five guineas, bringing together twenty-one competitors, which were characterised by the Judges as forming "a very good class." The cup was awarded to a remarkably good Black Red belonging to Mr. T. J. Charlton, of Bradford. Mr. Fletcher was second with a Brown Red; and the third prize went to a Black Red, all old birds, while several pens received notice. Single Game Cockerels were neither numerous nor of especial merit. Single Game Hens were good, the first prize being awarded to a first-class Brown Red, belonging to Mr. E. Aykroyd. The Single Game Pullet class was large, Black Reds taking the lead. In the adult classes of Black Red and Brown Red Game, there was an average competition; but in both classes for chickens the first positions were obtained by birds of remarkable quality, though rather young, and we think both pens will figure to advantage hereafter. Duckwings and Any other Game classes, both old and young, were well filled, the prizes falling to good specimens. *Foulards* formed nice classes, Silvers taking the first prizes both in the adult and chicken classes, good White-crested Black and Golden also winning. *Hamburghs* were both numerous and good. The cup for the best pen, as well as the first prize in their class, was awarded to most excellent Silver-spangled, which have long been successful for their late owner, Mr. Beldon, and now figure to like advantage for their fortunate possessor, Mr. Wood, of Kendal. Each of the other varieties was well represented, the Golden-spangled chickens more especially deserving notice. In "Any other Distinct Breed," adults and chickens, *Sultans* were first. Game Bantams were an average collection, Mr. Crosland being at the head of the list. In Laced Bantams, Silvers took the prizes; and in "Any other Variety," Whites had first, and Blacks the other positions.

The Ducks shown under inverted wool sheeps, as well as *Geese* and *Turkeys*, were good.

In the Pigeon department the competition was very keen in many classes. The silver cup, for the best pen, was awarded to a very fine Dun Carrier cock, shown by Mr. Colley, of Sheffield. Posters formed excellent classes, good birds taking the prizes. In Almond Tumblers, Mr. Else had his old position. In this variety there appears to be a



great scarcity of really good true-feathered birds. Mr. Pinto Leite's prize Barbs and Black Mottles were much admired. In Owls, foreign Whites were first, and Blues second. Turbits were largely shown, the first prize being awarded to peaked-crowned Blues, foul in thigh, kite-barred, and coarse. In Jacobins, good Reds won. Fantails were a nice class. Mr. Van Haansbergen had first with small, good-tailed, well-shaped, plain-headed Whites. In Trumpeters, Mr. Briggs was first with Black Mottles. The "Any other Breed" class was large. Frillbacks, were first, and Laced Fantails second. The latter should have been in the Fantail class.

**SPANISH.**—First, J. Newton, Leeds. Second and Third, H. Beldon, Bingley. *Chickens.*—First, J. Marchant, Halifax. Second, A. Heath, Wilts. Third, T. Greenwood, Dewsbury.

**DORKINGS.**—First, J. Gunson, Whitehaven. Second, C. W. Brierley, Middleton. Third, H. Beldon, Bingley. *Chickens.*—First and Commended, Hon. H. W. Fitzwilliam. Second and Third, Mrs. Dale, Scarborough. Commended, H. Savile, Notts.

**COCHIN CHINA (Cinnamon or Buff).**—First and Second, Capt. Heaton, Manchester. Third, C. Jennison, Manchester. Highly Commended, W. Dawson, Mirfield; C. W. Brierley, Middleton. Commended, H. Beldon, Bingley. *Chickens.*—First, Messrs. Bown & Greenwood, Harrogate. Second and Highly Commended, Capt. Heaton, Manchester. Third and Highly Commended, C. Sidgwick, Keighley.

**COCHIN CHINA (Any other variety).**—First and Highly Commended, C. E. Ridsdale, Halifax (Partridge). Second, W. Gamon, Thornton-le-Moors. Third, J. Harrison, Wakefield. *Chickens.*—First and Second, Capt. Heaton, Manchester. Third, Rev. F. Taylor, Kirby Lonsdale.

**BRAHMA POOTRA.**—First, W. Hargreaves, Bacup. Second, H. Lacy, Hebden Bridge. Third, T. Pomfret, Preston. *Chickens.*—First, H. Lacy, Hebden Bridge. Second, T. Statler, Manchester. Third, E. Pigeon, Exeter. Highly Commended, W. Hargreaves, Bacup.

**GAME COCK OR COCKEREL.**—Cup, T. J. Charlton, Bradford. Second, J. Fletcher, Manchester. Third, T. Bottomley, Shelf. Highly Commended, C. W. Brierley, Middleton; H. Snowden, Bradford; J. Sunderland, Halifax. Commended, S. Matthews, Stowmarket; J. Firth, Halifax. *Cockerel.*—First, J. Firth, Halifax. Second, H. Wood, Bradford. Third, J. Sunderland, Halifax. *Hens.*—First, E. Akroyd, Bradford. Second, J. Brook, Gomersal. Third, G. Rhodes, Skircoat. *Pullets.*—First, R. Scott, Booth Town. Second, R. Parkinson, Poulton-le-Fylde. Third, J. Wood, Wigan. Highly Commended, J. Firth, Halifax; E. Akroyd, Bradford; T. Dyson, Halifax.

**GAME (Black-breasted Reds).**—First, A. Hodgson, Ilkworth. Second, E. Rathidge, Halifax. Third, W. Bentley, Cleckheaton. *Chickens.*—First, T. J. Charlton, Bradford. Second, J. Firth, Halifax. Third, B. Consterdine, Littleborough.

**GAME (Brown-breasted and other Reds).**—First, W. Gamon, Thornton-le-Moors. Second, J. Wood, Wigan. Third, J. Sunderland, Halifax. *Chickens.*—First, E. Akroyd, Bradford. Second, H. C. Mason, Leeds. Third, J. Firth, Halifax.

**GAME (Duckwing Grey and Blue).**—First, E. Akroyd, Bradford. Second, H. Snowden, Great Horton. Third, J. Firth, Halifax. *Chickens.*—First, J. Firth, Halifax. Second, G. Hartley, Gomersal. Third, W. Bentley, Cleckheaton.

**GAME (Any other variety).**—First, J. Sunderland, Halifax. Second, H. C. Mason, Leeds. Third, W. Sutcliffe, Mytholmroyd. *Chickens.*—First, H. C. Mason, Leeds. Second, G. Nohle, Dewsbury. Third, J. Sunderland, Halifax.

**POLANDS.**—First, C. W. Brierley, Middleton. Second and Highly Commended, J. Smith, Keighley. Third, H. Beldon, Bingley. *Chickens.*—First, H. Gornall, Leeds. Second, J. Smith, Keighley. Third, H. Beldon, Bingley.

**HAMBURGUS (Golden-pencilled).**—First, R. Hemingway, Shelf. Second, Messrs. Birch & Boulter, Sheffield. Third and Highly Commended, S. Smith, Northwam. Highly Commended, N. Marlor, Manchester. *Chickens.*—First and Second, S. Smith, Northwam. Third, H. Beldon, Bingley. Highly Commended, T. Dyson, Halifax.

**HAMBURGUS (Silver-pencilled).**—First, H. Snowden, Great Horton. Second, J. Dixon, Bradford. Third, H. Beldon, Bingley. Highly Commended, A. K. Wood, Kendal. *Chickens.*—First, T. Briggs, Bingley. Second, H. Beldon, Bingley. Third, J. G. Park, Whitehaven. Highly Commended, H. Smith, Keighley.

**HAMBURGUS (Golden-spangled).**—First, H. Beldon, Bingley. Second, N. Marlor, Denton. Third, J. Roe, Manchester. Highly Commended, A. K. Wood, Kendal. *Chickens.*—First, H. Beldon, Bingley. Second, W. Driver, Keighley. Third, J. Dixon, Bradford. Highly Commended, M. H. Broadhead, Holmfirth. Commended, H. Carter, Holmfirth.

**HAMBURGUS (Silver-spangled).**—Cup, A. K. Wood, Kendal. Second and Highly Commended, H. Beldon, Bingley. Third, J. G. Park, Whitehaven. Highly Commended, J. Newton, Leeds. *Chickens.*—First, A. Smith, Silsden. Second, H. Beldon, Bingley. Third, J. G. Park, Whitehaven. Commended, J. Dixon, Bradford.

**HAMBURGUS (Black, White, or any other variety).**—First, H. Beldon, Bingley. Second, C. Sidgwick, Keighley. Third, C. W. Brierley, Middleton. Highly Commended, S. Briggs, Holywell Green. *Chickens.*—First and Third, C. Sidgwick, Keighley. Second, Messrs. W. & J. Harkers, Bingley.

**ANY OTHER DISTINCT BREED, EXCEPT BANTAMS.**—First, R. Loft, Beverley (Sultans). Second and Third, C. Lister, Mirfield (Rumpless and Silkies). *Chickens.*—First, R. Loft (Sultans). Second, W. Chadwick, Halifax. Third, J. Whitterton, Loinor.

**BANTAMS (Game).**—First, J. Crossland, jun., Wakefield. Second, J. W. Morris, Rochdale. Third and Highly Commended, G. Noble, Dewsbury. Highly Commended, D. Ashworth, Halifax.

**BANTAMS (Gold or Silver-laced Schright).**—First, Master C. Hutton, Pudsey. Second, C. W. Brierley, Middleton. Third, J. W. Morris, Rochdale.

**BANTAMS (Any other variety).**—First, C. W. Brierley, Middleton (White). Second, Messrs. J. & A. Briggs, Rawden. Third, Master C. Hutton, Pudsey (Black). Highly Commended, E. Pigeon, Exeter.

**DUCKS (Aylesbury).**—First, H. Beldon, Bingley. Second, G. Thewlis, jun., Holmfirth.

**DUCKS (Rouen).**—First, H. Beldon, Bingley. Second, S. Briggs, Holywell Green. Third, J. Firth, Halifax.

**DUCKS (Any other variety).**—First, C. W. Brierley, Middleton (Mandarins). Second, S. Briggs, Holywell Green. Third, Master C. Hutton, Pudsey (Teal).

**GESE.**—First, R. Tate, Leeds. Second, O. A. Young, Driffield. Third, W. Gamon, Thornton-le-Moors.

**TURKEYS.**—First, J. Wood, Chorley. Second, C. W. Brierley, Middleton. Third, F. E. Rawson, Thorpe.

**SELLING CLASS (Any breed).**—First, D. Jackson, Liversedge. Second, H. Atkinson, Otley. Third, T. Dyson.

**EXTRA STOCK.**—Medal, F. E. Rawson, Thorpe. Highly Commended, J. Marchant, Halifax; J. Wadsworth, Halifax.

**PIGEONS.—Pouters or Croppers (Cock).**—First, C. Cole, Bradford. Second, A. P. Leite, Manchester. Highly Commended, S. Briggs, Halifax; W. Ashforth, Sheffield. Commended, J. Thackary, York. (Hens).—First and Second, A. P. Leite, Manchester. Highly Commended, H. Snowden, Great Horton. *Carriers (Cocks).*—Cup and Second, T. Colley, Sheffield. Highly Commended, H. Beldon, Bingley; S. Sanday, Notts; A. P. Leite, Manchester. (Hens).—First, A. P. Leite, Manchester. Second, F. Else, Bayswater. Highly Commended, T. Colley, Sheffield. *Almond Tumblers.*—First, F. Else, Bayswater. Second, A. P. Leite, Manchester. Highly Commended, C. Cole, Bowling. *Mottled Tumblers.*—First and Second, A. P. Leite, Manchester. *Balds or Beards.*—First, H. Yardley, Birmingham. Second, W. H. C. Oates, Notts. *Ouels.*—First and Second, J. Fielding, jun., Rochdale. Highly Commended, A. P. Leite, Manchester. *Turbits.*—First, J. Thackary, York. Second, S. Wade, Ovenden. Highly Commended, S. Briggs, Halifax. *Jacobins.*—First, C. Cole, Bowling. Second, S. Briggs, Halifax. *Fantails.*—First, W. B. Van Haansbergen, Newcastle-on-Tyne. Second, H. Yardley, Birmingham. *Barbs.*—First, A. P. Leite, Manchester. Second, S. Briggs, Halifax. *Dragons.*—First, J. Percival, Birmingham. Second, S. Briggs, Halifax. Commended, H. Yardley, Birmingham; W. Gaukroger, Halifax. *Trumpeters.*—First and Second, S. Briggs, Halifax. *Maggies.*—First, H. Yardley, Birmingham. Second, J. Harrison, Wakefield. *Any other Breed.*—First, J. Harrison, Wakefield. Second and Highly Commended, A. P. Leite, Manchester. Highly Commended, H. Yardley, Birmingham. Commended, T. Marchant, Halifax. *Selling Class.*—First, N. Greenwood, Lower Saltonstall. Second, C. Cole, Bowling. *Extra Stock.*—First and Second, J. Fielding, jun., Rochdale. Commended, J. Firth, jun., Dewsbury.

The Judges were—for Poultry, Mr. Teebay, Fulwood, Preston; Mr. Hedley, London. For Pigeons, Mr. Harrison Weir, London.

## THE DEWSBURY SHOW OF POULTRY AND PIGEONS.

Few, if any, of our local exhibitions of poultry have shown so rapid an improvement as the one held at Dewsbury. Last year the entries of poultry amounted to 129, and of Pigeons to 46 pens, whilst this season the poultry numbered as high as 170 pens, and the Pigeons consisted of 131 pens. Again, the competition itself was of the highest order, showing as great an advance in this all-important respect as it does in point of numbers. The Committee seemed determined to do everything a Committee can do to secure support, and we therefore most heartily congratulate them on the permanent position the Dewsbury Show has now attained. It has been held in connection with a flower and horticultural show for some time past, and the public interest for sensation scenes this year has been much increased, by the introduction into the show-field of the wonderful American trotting horse, called "Kentucky Patcha," that by the kind permission of his owner, Mr. Barnabas Long, of Acton, Spofforth, near Wetherby, was put through his paces almost continuously, from two till six on Wednesday. The amazing trotting powers of this animal may be imagined from the fact, that with perfect ease he distanced horses at full gallop, and that without producing on himself the slightest perspiration. He proved beyond question one of the lions of the day, filling the show-field with gratified visitors; but as our digression has been simply to prove that additional attractions are, peculiarly, by no means thrown away, though not closely appertaining to the original intentions of a managing poultry committee, we must return to particulars respecting the poultry exhibition alone.

The Poultry and Pigeons were both ranged in the open field, but the day proving as favourable as could possibly be desired, every matter connected with the Show went off most satisfactorily. We noticed among the visitors Sir George Armitage, and others of the nobility, together with most of the resident gentry of the neighbourhood, and promises of additional names to next year's subscription list were numerously volunteered.

All colours in *Cochins* were permitted to compete in one general class; in both the adult and also the chicken classes the Buifs maintained precedence, and the first-prize chickens were some of the best we have seen this year. The White *Cochins* were also very good; but not a single pen of Partridge-coloured ones was entered. In *Spanish*, the chickens were very superior as a class, and exceedingly well shown. The old class, though equally good in character, were out of plumage altogether. The like remarks appertain with equal force to the *Grey Dorkings*. The *Hamburghs* always show to great disadvantage at this season, and consequently, one or two prizes in these classes were withheld. Most of the *Game* fowls were much out of condition, but were, nevertheless, first-rate specimens. A full month or six weeks will be still requisite to put them in proper order for the show-pen. We noticed among the variety classes some exceedingly good *Silks*, *Brahmas*, and purely Black *Rumpless* fowls, the latter (most unusually), having combs single, and as large as those of *Spanish* fowls. Only one pen of *Schrights* was shown, they were Gold-laced, and a rather pretty pen. The Black *Bantams* were equal to the average of



most shows, but the White Bantams were altogether a faulty lot. The Game Bantam class was a great attraction to the numerous visitors; a pen of young Black Rocks of great merit, belonging to Mr. John Newsome, of Batley, taking first position, and a pen of Greys belonging to Mr. Tate, of Leeds, being second in order of merit. The *Single Game Cock* class, and also that for *Single Game Hens*, were both good, but the birds, as a whole, being in full moult, detracted greatly from the general interest of this portion of the Show.

The *Ducks*, both Aylesbury and Rouen, were well shown; and a pen of extraordinarily good Grey *Geese* were worthy of especial mention.

The classes for *Rabbits* were not numerously filled, but there were some very good ones exhibited.

The competition throughout the whole of the *Pigeon* classes was unusually severe, and it was deemed necessary, therefore, to give several extra prizes beyond those offered in the printed prize schedule of the Dewsbury Committee. A prize offered by a member of the Committee, Mr. Frith, to the party taking most prizes in the Pigeon classes, to be determined by points, a first prize to count two points, and a second one point, brought about one of the keenest competitions we have witnessed for some years past. In proof we may mention the fact, that four of the most interested competitors came within one or two points of each other.

**COCHIN-CHINA.**—First, H. Beldon, Gortstock, Bingley. Second, W. Dawson, Hopton, Mirfield. *Chickens.*—First, C. Sedgwick, Keighley. Second, W. Dawson. Commended, E. Leech, Rochdale.

**SPANISH.**—First and Second, H. Beldon, Bingley. Commended, E. Brown, Sheffield. *Chickens.*—First, E. Brown. Second, S. Scholefield, Heckmondwike. Highly Commended, T. Greenwood, Dewsbury. Commended, T. Greenwood.

**DORKING.**—First, H. Beldon, Bingley. Second, H. Hemsworth, Wakefield. *Chickens.*—First, S. Pickard, Wakefield. Second, E. Leech, Rochdale. Commended, S. Pickard; H. Hemsworth, Wakefield.

**HAMBURG (Golden-spangled).**—First, H. Beldon, Bingley. Second, R. Tate, Leeds. Highly Commended, H. Carter, Uppertong, Holmfirth. *Chickens.*—First, H. Carter. Second, H. Beldon.

**HAMBURG (Silver-spangled).**—First, H. Beldon. Second, C. Cowburn, Leeds. Commended, H. Beldon. *Chickens.*—Prize, H. Beldon.

**HAMBURG (Golden-pencilled).**—First, H. Beldon. Second, S. Smith, Northwam, Halifax. *Chickens.*—First, H. Beldon. Second, S. Smith.

**HAMBURG (Silver-pencilled).**—First, withheld. Second, H. Beldon. *Chickens.*—First, H. Beldon. Second, W. Laurensen, Yarn.

**HAMBURG (Black).**—First, H. Beldon. Second, R. Tate, Leeds. Commended, C. Sedgwick, Keighley. *Chickens.*—First, C. Sedgwick. Second, R. Tate. Commended, C. Cowburn.

**POLAND (Gold or Silver-spangled).**—First and Second, H. Beldon. *Chickens.*—First, H. Beldon. Second, Mrs. Kell, Wetherby.

**POLAND (Any other variety).**—First and Second, J. Smith, Keighley (White-crested and Black). Commended, H. Carter, Uppertong, Holmfirth (White-crested). *Chickens.*—First and Second, J. Smith. Commended, H. Carter (White-crested).

**GAME (Black-breasted and other Reds).**—First, T. Vickerman, Chickenley. Second, E. Aykroyd, Bradford. *Chickens.*—First, T. Vickerman. Second, J. Ineson, Staincliffe. Commended, T. Greenwood.

**GAME (Duckwings and other Greys and Blues).**—First, E. Aykroyd, Bradford. Second, W. Fell, Adwalton. *Chickens.*—First, R. Tate, Leeds. Second, W. Bentley, Cleckheaton. Commended, J. Ineson, Staincliffe.

**GAME (White and Pies).**—First, H. C. Mason, Drighlington. Second, J. Ineson, Staincliffe. *Chickens.*—First, H. C. Mason. Second, G. Hellewell, Sheffield. Commended, J. Ineson.

**GAME (Black and Brassy-winged, except Greys).**—First, J. D. Newsome, Batley. Second, J. Vickerman, Chickenley. *Chickens.*—First, J. Oldroyd, Dewsbury Moor. Second, J. Ineson. Highly Commended, J. Brook, Gomersal.

**BANTAMS (Gold and Silver-laced).**—Prize, E. Hutton, Pudsey. **BANTAMS (Black).**—First, S. Scholefield, Heckmondwike. Second, H. Beldon.

**BANTAMS (White).**—First, R. Tate, Leeds. Second, T. C. Harrison, Hull.

**BANTAMS (Game).**—First, J. D. Newsome, Batley. Second, R. Tate. Commended, J. Brook, Gomersal; R. Cook, Staveley, Derbyshire.

**ANY BREED NOT MENTIONED IN THE ABOVE CLASSES.**—First and Second, C. Lister, Bracken Hill, Mirfield (Rumpless and Japanese Silk Fowls). Highly Commended, H. Beldon; R. Tate (Brahma Pootra). *Chickens.*—First and Second, H. Lacey, Hedden Bridge (Light-pencilled and Dark-pencilled Brahma Pootra). Highly Commended, E. Leech, Rochdale.

**GAME COCK (Any variety).**—First, W. Whiteley, Liversedge. Second, W. Fell, Adwalton.

**GAME HEN (Any variety).**—First, T. Dyson, Halifax. Second, J. Ineson. Highly Commended, H. C. Mason, Drighlington.

**DUCKS (White).**—First, E. Leech, Rochdale. Second, H. Beldon.

**DUCKS (Rouen).**—First, J. D. Newsome, Batley. Second, H. Beldon. Highly Commended, E. Leech; J. D. Newsome.

**GESE.**—First and Second, R. Tate, Leeds.

#### RABBITS.

**LOP-EARED.**—*Buck.*—First, E. E. M. Roys, Greenhead, Rochdale. Second, R. Dobson, York. *Doc.*—First, R. Dobson. Second, W. H. Firth, Dewsbury.

**FOR COLOUR.**—First, T. Halmshaw, Dewsbury. Second, A. Barratt.

#### PIGEONS.

**POWTELS.**—*Cock.*—First and Second, C. Cole, Bowling, near Bradford. Extra Second, J. Thackray, York. Highly Commended, H. Yardley, Birmingham. Commended, E. E. M. Roys, Greenhead, Rochdale; J. Smith, Sheffield; W. Hughes, Leeds. *Hen.*—First and Second, C. Cole. Highly Commended, E. E. M. Roys. Commended, J. Thackray.

**CARRIER.**—*Cock.*—First, H. Beldon. Second, E. E. M. Roys, Extra Second, C. Cole. Highly Commended, W. Blasey, Fulford, York; E. Brown, Sheffield; J. Thackray. *Hen.*—First, J. Thackray. Second, W. Blasey, Fulford, York. Highly Commended, C. Cowburn, Leeds.

**TUMBLERS (Almond).**—First, E. Brown, Sheffield. Second, C. Cole. Highly Commended, H. Yardley.

**TUMBLERS (Any other variety).**—First, H. Yardley. Second, J. Smith, Sheffield. Highly Commended, E. E. M. Roys; J. Thackray.

**TURBANS.**—First, H. Yardley. Second, E. E. M. Roys. Highly Commended, C. Cole; D. Canser, Erdington, Birmingham; T. C. Taylor, Middlesborough; H. Yardley. Commended, J. Thackray.

**JACOBS.**—First, J. Thackray. Second, W. Mussey. Highly Commended, C. Cole; E. E. M. Roys; T. Metcalf, Southill, near Batley.

**TRUMPETERS.**—First, E. E. M. Roys. Second, J. Thackray. Commended, T. C. Taylor; H. Yardley.

**OWLS.**—First, E. E. M. Roys. Second, H. Yardley. Highly Commended, E. E. M. Roys. Commended, W. Hughes, Leeds.

**BARES.**—First, H. Yardley. Second, C. Cole. Highly Commended, J. Thackray. Commended, E. E. M. Roys; H. Beldon; C. Cowburn; E. Brown.

**PANTAILS.**—First, J. Thackray. Second, H. Yardley.

**NUSS.**—First, E. E. M. Roys. Second, D. Canser. Highly Commended, J. Thackray.

**COMMON.**—First, M. Spedding, Dewsbury. Second, J. Vickerman, Chickenley. Commended, T. Wallis, Dewsbury; J. Vickerman.

**ANY OTHER VARIETY.**—Prize, H. Yardley. Highly Commended, D. Canser. Commended, C. Cole; E. E. M. Roys.

Edward Hewett, Esq., of Eden Cottage, Sparkbrook, near Birmingham, officiated as Judge.

### COTTINGHAM POULTRY SHOW.

(From a Correspondent.)

The annual Exhibition of the above Society was held on Wednesday the 30th of August, and was a most successful one. The weather was all that could be desired, and some thousands of people from Hull and the neighbouring district thronged the grounds during the afternoon. Some capital specimens were shown in the various classes, and on the whole the awards of the Judges appeared to give satisfaction. In *Pigeons* two special prizes were offered, one for the best pair of Carriers and the other for the best pair of Tumblers. In the latter case it was stipulated that the points to be considered were head, beak, and carriage, and that may account for the seeming anomaly of the special prize being awarded to the second-prize pair. We understand the prize list is to be increased another year, and in that case we anticipate a much larger entry, although upwards of two hundred pens were mustered on this occasion.

**SPANISH.**—First, J. Hatfield, jun., Cottingham. Second, W. Charter' Driffield. Commended, J. Hodgkinson, Hull. *Chickens.*—First, W. Charter' Second, J. Hatfield, jun.

**DORKINGS.**—First, J. Hatfield, jun. Second, W. Watson. Highly Commended, J. Hatfield, jun. *Chickens.*—Prize, O. A. Young, Driffield. Very Highly Commended, W. Holland, Eppleworth. Highly Commended, J. Finkley, Leven; W. Holland; J. Hatfield. Commended, R. Robson, Beverley.

**COCHIN-CHINA.**—First, E. Loft, Woodmansey. Second, T. C. Trotter, Sutton. Highly Commended, R. Loft. Commended, H. Taylor, Newland. *Chickens.*—First, H. Merkin, Driffield. Second, H. Taylor.

**GAME.**—First, A. Julian, Hull. Second, D. Pickering, Hull. Highly Commended, J. Hodgkinson. *Chickens.*—First, R. Hardy, Lockington. Second, R. Tate, Leeds. Highly Commended, R. Hardy; O. A. Young.

**GAME.**—First, R. Allinson, Cottingham. Second, R. Robson, Beverley. Highly Commended, R. Robson; W. Charter. Commended, R. Robson. *Chickens.*—First and Second, J. Hodgkinson (Pies).

**POLANDS.**—First, J. Proctor, Hull. Second, G. Holmes, Driffield. Highly Commended, J. R. Jessop, Hull. Commended J. Proctor. *Chickens.*—First and Second, J. Proctor.

**HAMBURG (Golden-spangled).**—First, J. Blanchard, Driffield. Second, G. Holmes. *Chickens.*—First, J. Blanchard. Second, R. Tate.

**HAMBURG (Golden-pencilled).**—First, E. Tate. Second, J. Bilton, Cottingham. Highly Commended, R. Grantham, Cottingham. Commended, Mrs. D. Smith, Kirkella. *Chickens.*—Prize, J. Bilton.

**HAMBURG (Silver-spangled).**—First, G. Holmes. Second, S. Campling, Cottingham. Highly Commended, G. Holmes; R. Voakes, Hull; J. Hall, Willeby. *Chickens.*—Prize, R. Carling, Cottingham.

**HAMBURG (Silver-pencilled).**—First, G. Holmes. Second, J. Bilton. *Chickens.*—Prize, H. Allison.

**BANTAMS (Gold).**—First, J. R. Jessop. Second, W. Charter. Highly Commended, G. Bilton. *Chickens.*—Prize, W. Richardson.

**BANTAMS (Game).**—First, R. Vokes. Second, J. Hodgkinson. Highly Commended, W. T. Entwistle, Otley; R. Robson. Commended, G. Holmes, *Chickens.*—Judges' prize, S. Dielby, Beverley. First, W. T. Entwistle. Second, R. Tate. Commended, R. Robson; R. Voakes; E. Peak, the Park, Hull; J. R. Jessop.

**BANTAMS (Any other variety).**—First, J. R. Jessop (Packs). Second, C. S. Brittain, Cottingham (Black). *Chickens.*—First and Second, J. R. Jessop (Black and White).

**ANY DISTINCT VARIETY.**—First and Second, R. Loft. Commended, O. A. Young, Driffield. *Chickens.*—First, R. Loft (Sultans). Second, J. Hodgkinson (Brahmas).

**FARMYARD CROSS.**—First, R. Loft. Second, T. Coverdale. Highly Commended, W. Charter. Commended, R. Garton, New Village. *Chickens.*—First, G. Robinson, Frodingham. Second, G. Bromby, Pilwoods.

**SELLING CLASS.**—First, H. Robinson, Cottingham. Second, G. Holmes. Highly Commended, T. Webster, Welton; W. Charter.

**GUINEA FOWLS.**—First and Second, O. A. Young.

**TURKEYS.**—First, J. Kyme, Cottingham. Second, W. Dunling, Cottingham.

**GESE.**—First, O. A. Young. Second, W. Donkin, jun., Cottingham.

**DUCKS (Aylesbury).**—First, T. C. Trotter. Second, W. Lawson, Newland. Highly Commended, O. A. Young.

**DUCKS (Rouen).**—First, O. A. Young. Second, T. C. Trotter.

**DUCKS (Any other variety).**—First, J. R. Jessop (East Indian). Second, O. A. Young (Wild).

**PIGEONS.**—*Troopers.*—First, W. Watson, Beverley. Second, H. Yardley



**Birmingham. Carriers.**—First and Special, H. Yardley. Second, W. Twells, Kirkella. **Turbits.**—First, J. Gawan, Beverley. Second, J. R. Jessop. **Trumpeters.**—First and Second, F. Key, Beverley. **Jacobins.**—First, T. Ellington, Woodmansey. Second, H. Yardley. Highly Commended, J. R. Jessop. T. Ellington. **Fantails.**—First and Second, T. Ellington. Highly Commended, C. Unson, Hull. **Dragons.**—First and Second, W. Watson, Beverley. **Tumblers.**—First, H. Yardley. Second and Special, (Head, beak, and carriage alone considered).—Martin, Beverley. Highly Commended, W. Twells; J. R. Jessop; C. Lythe. **Barbs.**—First, J. R. Jessop. Second, H. Yardley. **Nuns.**—First and Second, F. Key. Highly Commended, W. Twells. *Any other variety.*—First and Second, W. Twells, (Swallows and Runts). Highly Commended, H. Yardley.

**RABBITS.**—First, Miss Pease, Hesslewood. Second, O. A. Young. Extra, J. A. Staveley.

**JUDGES.**—F. Ferguson, Esq., Risby Park; and W. W. Boulton, Esq., Beverley.

## PUDSEY POULTRY SHOW.

THE second annual show of Poultry and Pigeons was held at Pudsey in connection with the Floral Exhibition on the 29th of August.

In number of entries the show was a decided success, but the great feature was the quality of the specimens shown, scarcely a bad pen of birds appearing for competition; and the encouragement felt by the Committee through the support received from some of the best exhibitors in both sections of the show, will, no doubt, give a decided impulse, which will tend toward the augmentation of the prize schedule for future shows. The silver cup for the best pen in the show was won by Mr. Beldon with a magnificent pen of Spanish, and the silver inkstand, given by Mr. E. Hutton for the best pair of Pigeons in the show, was most satisfactorily given to a splendid pair of Dun Carriers, the property of Mr. Massey, of Fulford, York.

The following is the prize list:—

**SPANISH (Black).**—Cup and First, H. Beldon, Bingley. Second, H. Greenwood, Woodhall Hills. Third, H. Beldon.

**DORKINGS.**—First, J. Hall, Idle. Second, H. Beldon.

**COCHIN-CHINA.**—First, H. Beldon. Second, F. W. Rust, Hastings, Sussex. Third, C. Sedgwick, Keighley.

**BRAMHA POOTRA.**—First, H. Beldon. Second, R. Tate, Leeds. Third, C. Lister, Mirfield.

**GAME (Black or brown-breasted Red).**—First, J. Sunderland, Coley Hall, Second, R. Tate. Third, J. Hodgson, Bowling.

**GAME (Any other variety).**—First, H. C. Mason, Adwalton. Third, J. Hodgson.

**HAMBURGH (Golden-spangled).**—First, H. Beldon. Second, J. Preston, Adwalton. Third, A. K. Wood, Kendal.

**HAMBURGH (Silver-spangled).**—First, H. Beldon. Second, J. Preston, Third, H. Beldon.

**HAMBURGH (Golden-pencilled).**—First, S. Smith, Northowram. Second, W. Harker, Cottingley. Third, H. Beldon.

**HAMBURGH (Silver-pencilled).**—First, A. K. Wood. Second and Third, H. Beldon.

**HAMBURGH (Any other variety).**—First, C. Sedgwick. Second, R. Tate. Third, W. & J. Harker.

**POLANDS (Any variety).**—First and Second, H. Beldon. Third, H. Gerner, Farnely.

**BANTAMS (Game).**—First, T. C. Harrison, Hull. Second and Third, W. F. Entwistle, Otley.

**BANTAMS (Black or White).**—First, S. Schofield, Heckmondwike. Second, H. Beldon. Third, R. Tate.

**BANTAMS (Any other variety).**—First and Second, Master C. H. Hutton, Pudsey.

**DUCKS (Rouen).**—First and Second, H. Beldon. Third, C. Sedgwick.

**DUCKS (Aylesbury or White).**—First, H. Jones, Aylesbury. Second, H. Beldon. Third, J. Leeming, Pudsey.

**DUCKS (Any other variety).**—First, T. C. Harrison, Hull. Second, H. Beldon. Third, C. Lister.

**ANY OTHER VARIETY.**—First, R. Tate. Second and Third, C. Lister.

**PIGEONS.—Porters.**—First and Second, C. Cole, Bowling. *Carriers.*—(silver inkstand, given by Mr. E. Hutton for the best pair of Pigeons).

—First, W. Massey, York. Second, H. Beldon. *Dragons.*—First, E. E. M. Royds, Rochdale. Second, H. Yardley. *Antwerps.*—First, H. Yardley.

Second, E. Hutton. *Barbs.*—First, C. Cole. Second, W. Hughes, Leeds.

*Ouels.*—First, E. E. M. Royds. Second, C. Cowburn, Leeds. *Turbits.*—First, J. Thackeray, York. Second, E. E. M. Royds. *Archangels.*—First, C. Cole. Second, J. R. Jessop, Hull. *Tumblers (Short-faced).*—First, J. Hawley, Burnley. Second, C. Cole. *Tumblers (Long-faced).*—First, C. Cole. Second, H. W. Ilmgworth. *Fantails.*—First, J. Thackeray. Second, W. Hughes. *Largest pair of Pigeons.*—First, H. Beldon. Second, J. Thackeray. *Any other variety of Pigeons, Turkeys or other Doves.*—First, C. Cole. Second, J. J. Wilson, Darlington.

The Judges were William Cannan and James Dixon, Esqrs., of Bradford.

## BURNLEY POULTRY SHOW.

THIS was held on Thursday, August 24th, when the following premiums were awarded:—

**GAME (Black or Brown Reds).**—*Chickens.*—First, N. Grimshaw, Pendle Forest. Second, R. Tate, Leeds. Highly Commended, E. Aykroyd, Bradford, Yorkshire.

**GAME (Any other variety).**—*Chickens.*—First, R. Whittam, Mount Pleasant, near Burnley. Second, J. Turner, Radcliffe.

**SPANISH.—Chickens.**—First, E. Brown, Sheffield. Second, T. Greenwood, Dewsbury. Highly Commended, H. Wilkinson, Earby. Commended, T. Greenwood.

**DORKINGS (Any colour).**—*Chickens.*—First, D. Parsons, Cueden, near Preston. Second, W. Moorhouse, Read, near Whalley.

**COCHINS (Any colour).**—*Chickens.*—First, C. Sedgwick, Keighley. Second, J. B. Wilkinson, Marsdon Hall, near Burnley. Commended, T. Grimshaw, Bank House, near Burnley.

**HAMBURGHS (Golden-spangled).**—*Chickens.*—First, J. Roe, Hadfield, near Manchester. Second, W. Driver, Keighley.

**HAMBURGHS (Silver-spangled).**—*Chickens.*—First, A. Smith, Silsden. Second, J. G. Park, Whitehaven. Highly Commended, W. Redman, Mount Pleasant, Cliviger.

**HAMBURGHS (Golden-pencilled).**—*Chickens.*—First, S. Smith, Halifax. Second, D. Ashworth, Halifax.

**HAMBURGHS (Silver-pencilled).**—*Chickens.*—First, J. G. Park. Second, A. Nuttall, Newchurch, near Manchester.

**BRAMHA POOTRAS.**—*Chickens.*—First, H. Lacy, Hebden Bridge. Second, E. Greenwood, Overtown, near Burnley. Highly Commended, W. Gamon, Chester.

**GAME BANTAMS.**—First, D. Parsons. Second, J. Turner.

**ANY OTHER VARIETY.—Chickens.**—First, C. Sedgwick. Second, H. Carter, Holmfirth.

**POLANDS (Black).**—Highly Commended, J. Hargreaves, Skipton.

**DUCKS (Aylesbury).**—Prize, E. Leech, Rochdale.

**DUCKS (Rouen).**—First, T. Houlker, Blackburn. Second, E. Leech.

**DUCKS (Any other variety).**—First, D. Parsons (Call Ducks). Second, J. Hargreaves (East Indian). Highly Commended, T. C. Harrison, Hull (Call Ducks).

**GESE (Any colour).**—First, B. Baxter, Skipton. Second, T. Houlker, Blackburn.

**TURKEYS (Any variety).**—First, E. Leech, Rochdale. Second, C. Sidgwick, Keighley.

**GAME (Cock).**—First, N. Grimshaw, Pendle Forest. Second, W. R. Lane, Birmingham. Highly Commended, R. Whittam, Brierfield, near Burnley.

**COCKEREL.**—First, N. Grimshaw, Pendle Forest. Second, R. Tate, Leeds.

**GAME BANTAM COCK.**—First, T. C. Harrison, Hull. Second, Hon. T. W. Fitzwilliam, Rotherham.

**SELLING CLASS (Any variety).**—First, R. Whittam, Burnley. Second, T. Greenwood, Dewsbury. Third, T. Houlker, Blackburn.

Mr. Teebay officiated as Judge.

## WHITWORTH AND ROCHDALE POULTRY SHOW.

THIS took place on the 23rd of August, when the following awards were made.

**SPANISH.**—First, H. Beldon, Gortstock, Bingley. Second, J. G. Park, High Low Hall, Whitehaven. *Chickens.*—First, E. Brown, Albert House, Sheffield. Second, Messrs. Burch & Boulter, Sheffield.

**COCHIN-CHINA.**—First, H. Beldon. Second, J. Nelson, Heaton Mersey, Manchester. *Chickens.*—First, C. Sidgwick, Riddlesden Hall, Keighley.

Second, A. Bamford, Tong Lane, Middleton.

**COCHIN-CHINA.**—Second, C. W. Brierley, Rhodes House, Middleton. *Chickens.*—Prize, J. Barlow, Leaveness.

**BRAMHAS.**—First, H. Lacy, Lacy House, near Hebden Bridge. Second, W. Hargreaves, Bacup. *Chickens.*—First, T. Statter, Stand Hill, Whitefield, Manchester. Second, H. Lacy.

**GAME COCK.**—First, C. W. Brierley. Second, T. Statter.

**GAME.**—First and Second, C. W. Brierley. *Chickens.*—First, R. Tate, Green Road, Leeds. Second, T. Statter.

**POLANDS.**—First, H. Beldon. Second, C. W. Brierley. *Chickens.*—First, H. Beldon. Second, S. Farrington, Chat Moss, Astley.

**HAMBURGH (Golden-spangled).**—First, R. Tate. Second, H. Beldon. *Chickens.*—Prize, J. Roe, Hadfield, near Manchester.

**HAMBURGH (Silver-spangled).**—First, H. Beldon. Second, A. K. Wood, Burnside, Kendal. *Chickens.*—First, A. Smith, Woodside, Silsden, near Leeds. Second, J. Fielding, Newchurch, Rossendale.

**HAMBURGH (Golden-pencilled).**—First and Second, S. Smith, Northowram, Halifax. *Chickens.*—First, S. Smith. Second, T. Wrigley, jun., Tong Lane, Middleton.

**HAMBURGH (Silver-pencilled).**—First, H. Beldon. Second, A. K. Wood, *Chickens.*—First, H. Beldon. Second, J. G. Park, High Low Hall, Whitehaven.

**HAMBURGH (Black).**—First, H. Beldon. Second, R. Battersby, Heywood. *Chickens.*—First, C. Sidgwick, Riddlesden Hall, Keighley. Second, J. Hargreave, Mill Fields, Skipton.

**DORKING.**—First, E. Smith, Middleton. Second, T. Statter. *Chickens.*—First, J. Stott, Healey, near Rochdale. Second, E. Smith.

**ANY OTHER DISTINCT BREED (Except Bantams).**—First, S. Lord, Bluepits, near Rochdale. Second, N. Rigg, Hamerbottoms, Rochdale.

**BANTAM.**—First, C. W. Brierley. Second, Dr. Morris, Rochdale.

**ANY OTHER VARIETY.**—First, C. H. Hutton, Pudsey, near Leeds. Second, C. W. Brierley.

**DUCKS (Aylesbury).**—First, E. Leach, Greave, Rochdale. Second, H. Beldon.

**DUCKS (Rouen).**—First, J. Nelson, Heaton Mersey, near Manchester. Second, D. Howarth, Broadfield, Rochdale.

**ANY OTHER VARIETY.**—First, C. H. Hutton. Second, W. Moorhouse.

**GESE.**—Prize, F. Leech.

**TURKEYS.**—First, E. Leech. Second, C. W. Brierley.

**PIGEONS.—Porters or Croppers.**—First, C. Cole, Bowling, near Bradford. Second, Miss Eron, Bank Cottage, Pendlebury. *Carriers.*—First, Messrs. C. & E. Royds. Second, W. Massey. *Tumblers (Almond).*—First, J. Fielding, jun. Second, C. Cole, Bowling, near Bradford. *Tumblers (Any other variety).*—First, J. Fielding jun. Second, J. Thackeray, York. *Balds or Beards.*—First, S. Stott, Clover Cottage, near Rochdale. Second, Messrs. C. & E. Royds. *Ouels.*—First and Second, J. Fielding, jun. *Turbits.*—First, Messrs. C. & E. Royds. Second, H. Beldon. *Jacobins.*—First, Miss Eron. Second, H. Yardley, Market Hall, Birmingham. *Fantails.*—First, H. Yardley. Second, J. Thackeray. *Barbs.*—First, H. Yardley. Second, F. Bright, Cronkshaw. *Dragons.*—First, Messrs. C. & E. Royds. Second, H. Yardley. *Trumpeters.*—First, H. Yardley. Second, F. Key, Beverley, Yorkshire. *Magpies.*—First and Second, Messrs. C. & E. Royds. *Any other kinds.*—First, J. Thackeray. Second, F. Key. *Selling Class.*—First, J. Hawley, Burnley. Second, F. Key. Third, Messrs. C. & E. Royds.

**JUDGES.**—Mr. T. Dodds, and Mr. T. Slagg.

## SKIPTON POULTRY SHOW.

(From a Correspondent).

This was held on Friday, August 18th. The quality of the poultry was good, though the pens were not very numerous. *Cochins* were fair, the *chickens* especially. All the *Hamburg* varieties, both old and young, were good. *Polands* were capital.

*DORKING* (Any colour).—First, T. Briden, Early. Second, H. Beldon, Bingley. *Chickens*.—First, E. Leech, Rochdale. Second, H. Beldon.

*SPANISH* (Black).—First, H. Beldon. Second, J. Newton, Silsden.

*CHICKENS*.—First and Second, T. Greenwood, Dewsbury.

*GAME*.—First, W. Bently, Cleckheaton. Second, W. Ayrton, Early.

*CHICKENS*.—First, W. Ayrton. Second, W. Bently.

*COCHIN-CHINA*.—First, R. J. Wood, Chorley. Second, W. Dawson, Mirfield. *Chickens*.—First, C. Sidgwick, Riddlesden Hall. Second, Messrs. Brown & Greenwood, Harrogate.

*HAMBURGH* (Golden-pencilled).—First, S. Smith, Northowram. Second, H. Beldon. *Chickens*.—First, J. G. Park, Whitehaven. Second, S. Smith, Halifax.

*HAMBURGH* (Silver-pencilled).—First, J. G. Park. Second, H. Beldon. *Chickens*.—First, J. G. Park. Second, R. Chew, Gishburn.

*HAMBURGH* (Golden-spangled).—First, W. Driver, Keighley. Second, H. Beldon. *Chickens*.—First, W. Driver. Second, W. Throup, Silsden.

*HAMBURGH* (Silver-spangled).—First, H. Beldon. Second, J. G. Park. *Chickens*.—First, A. Smith, Silsden. Second, H. Beldon.

*HAMBURGH* (Black).—First, C. Sidgwick, Riddlesden Hall. Second, W. Hird, Bingley. *Chickens*.—First, J. Hargreaves, Skipton. Second, C. Sidgwick.

*POLANDS*.—First and Second, J. Smith, Keighley. *Chickens*.—First, J. Smith. Second, H. Bowker, Keighley.

*BANTAMS* (Game).—First, J. D. Newsome, Batley. Second, J. G. Park. *Chickens*.—First, J. D. Newsome. Second, T. Hartley, Early.

*BANTAMS* (Any colour).—First, W. H. Briggs, Bradford. Second, H. Beldon. *Chickens*.—First, H. Beldon. Second, J. Hargreaves.

ANY OTHER VARIETY.—Prize, H. Beldon. *Chickens*.—Prize, W. Ayrton, Early.

*GEES*.—Prize, S. Swire, Stainton Coates, Hargrave.

*DUCKS* (Aylesbury).—First, J. Newton, Silsden. Second, H. Beldon.

*DUCKS* (Rouen).—First, H. Beldon. Second, J. D. Newsome.

ANY OTHER VARIETY.—First, H. Beldon. Second, J. Hargreaves.

*TURKEYS*.—First, E. Leech, Rochdale. Second, J. B. Beckwith, Winterton.

*PIGEONS*.—*Carriers*.—First, C. Cole, Bowling. Second, H. Smith, Skipton.

*Pouters*.—First and Second, C. Cole. *Almond Tumblers*.—First, C. Cole.

*Oils*.—First, H. Smith. Second, H. Shuttleworth, Skipton. *Barbs*.—First, H. Smith.

Second, C. Cole. *Jacobins*.—First and Second, C. Cole. *Mottled Tumblers*.—First, J. Hawley, Burnley. Second, H. Smith. *Baldpates*.—First, J. Collier, Skipton.

Second, W. Scott, Skipton. *Runts*.—First, H. Smith.

Second, R. Hebden, Skipton. *Dragons*.—First, C. Cole. Second, J. Baxendale, Sutton.

*Anteers*.—First, T. Thornton, Skipton. Second, J. Collier, Skipton.

Any other variety.—First, C. Cole. Second, J. Thompson, Bingley.

## THE CAUSE OF THE HUMMING NOISE MADE BY BEES.

Does the humming or buzzing of a bee proceed entirely from the wings, or has the mouth anything to do with it? If the former, from whence proceeds the instantaneous answer that is given when the outside of the hive is tapped?—W. A. J.

[The celebrated John Hunter appears to have attributed the humming of bees to the rushing of air through their spiracles, since he found that they can produce a sound independently of their wings; for if these be smeared over with honey so as to stick together, the bee still makes a noise, which is shrill and peevish. He found the same effect from holding the bee by the legs with a pair of pincers, while the wings were perfectly still, and also by immersing the insect in water, though not until it was very much teased.]

## REMOVING BEES FROM AN OLD STRAW HIVE INTO A BOX HIVE.

I THINK you may perhaps be interested in hearing how the above operation was performed, as many people informed me that I must kill my bees to get at the honey. This I greatly objected to; so I applied to a very experienced bee-master to see what he could do. He came up on the 28th ult., early in the morning, and commenced operations by removing the board at the bottom of the hive, and raising the hive with stones, about 2 inches. He then began to beat the sides of the hive, gradually driving all the bees through the small orifice at the top into the cap, or super, on the top of the under hive. He then removed the bottom hive and placed the cap on a stool till the evening. At about 6 o'clock he again came up and placed a three-legged stool upside down on the ground, and inverted upon it an empty straw hive. Upon this he placed the cap, full of bees and honeycomb. Around the two he wrapped cloths, and then beat the sides of the upper hive to drive the entire stock into the lower one. This he successfully

accomplished, and we then took out the comb, which was very pure and good. After turning up the hive full of bees he left them till the following evening, when he again came, and spread a cloth upon the ground about 3 feet square. Upon this he placed three bricks, and put upon them the box hive, full of its old stock. Near it he emptied the straw hive, scattering flour on all the inhabitants, which soon crawled on to the bricks, and thence into the box hive, which must be now tolerably full, though the bees are all quiet in our sunny kitchen garden.

I should add, that our lower straw hive was so old that we feared it would not hold together through the winter if we allowed our bees to remain in it.—P., *Priors Marston, Warwickshire*.

## BEES REFUSING TO HATCH BROOD.

BRING told in THE JOURNAL OF HORTICULTURE that bees will usually hatch out brood placed in a glass over the hive. I have tried it, both last year and this, without success. Finding brood in all stages in a hive of bees driven from the moors, the comb was placed over the hive immediately, without any chill; in fact, young bees were at the time working their way out, and both times the result was the same, the bees clearing the grubs out of the combs instead of hatching them, and carrying them away out of the hive. Being past the honey-gathering season, the cells could not be required for depositing honey; besides, there was space in the hive itself, which, being a weak one, I thought would be strengthened by the brood given. Can you explain this?—F. F.

[This shows how difficult it is to predicate what bees will or will not do under certain circumstances, since ours have always hatched out brood presented to them under precisely similar conditions to those which you describe. It is, however, many years since we placed brood on the top of a hive, as we now always attach it to bars, and insert it within the hive itself.]

## UNFERTILE QUEEN.

THE result of microscopical investigation, kindly instituted by Mr. Woodbury and given in THE JOURNAL OF HORTICULTURE of August 1st, fully confirms the observations that have been made relative to the state of the queen. It was doubtful at first whether she was a fertile queen, which had been presented to a queenless stock, and by them cast out, or whether she was a supernumerary from a stock which was raising young queens. That she was the latter the state of both hives subsequently confirms, and the inquirer has since had the satisfaction of having introduced a queen, at first ill-received, by the medium of syrup scented with peppermint, to a stock which would otherwise have perished.—A READER OF "OUR JOURNAL."

## THE LIGURIAN BEE.

It has for many years been known in Europe as a distinct variety of the honey bee. Attempts to import it into this country were made in 1856 by Samuel Wagner, of York, Pa., but unsuccessfully. Other attempts were made, but it was not until May and June, 1860, that these bees were successfully introduced by Parsons of Long Island, and Colvin and Wagner of Baltimore. Since then, other importations have been made from various parts of Europe, including the vicinity of Lake Como, where this bee is said to be found in great perfection. The most distinguished apiarians in our country have devoted much time, labour, and money to importing and raising these bees. For a long time the whole matter was ridiculed by the majority, to whom "a bee is a bee the world over,"—and even now, when these bees are found all over the country in different degrees of purity, many are unwilling to believe them any better than the common bee. What is of interest to every bee-keeper, are the questions whether this bee is adapted to our climate, and if so, how much and why is it superior to the common variety? Many fears were expressed on its introduction that it was not hardy and could not endure our climate. I have found it more hardy than the common bee, wintering well out of doors, working later in the season than the other variety, and venturing abroad in weather when no common bee is seen to leave the hive. Multiplying much faster than the black bee, and if al-



lowed to do so swarming earlier and oftener, they continue also to rear young later in the fall, and are thus prepared to go into winter quarters strong and populous. It was said when introduced that they could not sting, and by some they are now called "the stingless bee." The experience of those who have hitherto brought them into this State has not confirmed these accounts, as they have been found more irritable than the common bee. I think this proves conclusively that few pure Italians have ever been brought here. The cross between the Italian and common bee has always been reported in this country and in Europe to be very irritable, easily provoked, and after once vexed, not to be appeased for a long time. Since I have seen the pure Italians, I am willing to give them the reputation they have always borne for extreme docility, as they never sting unless greatly provoked. No one can open a hive containing these beautiful insects without being struck by the difference between them and the other variety, as they manifest no alarm or irritation. The queen, too, instead of hiding, as a common one always does, remains quietly in her place, and by her red and light colouring can be distinguished at glance.

But, after all that can be said, the main questions with our matter-of-fact people will be, Will it pay? and how much? The only way in which this can be decided, I think, is by comparing them under the same circumstances of season and location. If I tell of 200 lbs. obtained from an Italian colony this season, some one else may bring a report of what has been done by a colony of native bees at some other time or place, and neither statement, as I view the subject, proves anything. What we want, to decide the matter, are accounts of the comparative yield under the same circumstances. My experience on this point has been as follows: In the spring of 1863 I had only two Italian colonies (so called, though they were not pure). They were not strong. Through the season one of them gave me three swarms and stored 100 lbs. in boxes. The other gave me two swarms and stored 26 lbs. in boxes. All of the swarms filled their hives, and all stored some honey in boxes. I had that same summer fifty-nine hives of common bees, from all of which more or less was taken, but not one of them stored a pound of honey in boxes. That season was the poorest honey-producing season I ever knew. Through the summer of 1863 I averaged from nine Italian colonies 119 lbs. each. The best one of these shows this record in my journal: "One full swarm taken from it on the 20th of May; 150 lbs. from it in boxes. The swarm taken from it made 80 lbs. and on the 16th of August threw off a swarm which filled its hive and wintered well." This makes two valuable swarms and 236 lbs. of honey from one colony in a single season.

With this I wish to contrast the fact that from thirty stands of common bees that season I obtained only six swarms and 1,654 lbs. of honey, or an average of 56 lbs. each. The greatest yield from any one was 96 lbs. As these bees were all wintered alike, in the same sort of hives, and were managed in the same way, under the same circumstances of season and location, I claim that this result proves beyond a doubt the great superiority of the Italian bee. I attribute this superiority to their greater industry, their energy, and their more rapid increase of young in the spring, and also their ability to gather honey from the red clover.—(ELLEN S. TUPPER in *Hack-Eye*.)

### BEE-KEEPING IN CHESHIRE—TREATMENT OF DRIVEN BEES.

I HAVE waited some time to see whether any of our Cheshire bee-keepers would give us any information respecting bee-keeping, and none of them having done so must be my excuse for troubling you. I began bee-keeping in the spring with two common straw hives. No. 1 threw off a swarm on the 7th of June, which I put in one of Messrs. Neighbours' hives, the bottom part of which they had filled by the eighteenth day, when I put on a small super, from which I have since taken 10 lbs. of very nice honey. The old hive swarmed again on the 22nd of June, and on the 28th of July the swarm weighed 14 lbs. nett. Hive No. 2 swarmed on the 21st of June, and on the 28th of July weighed 24 lbs. nett. This shows the difference between a first and a second swarm. I may mention that myself and a neighbour have driven no less than nine hives, and I have the bees of six of the hives in two bar boxes, but of course I have filled the bars of the boxes with brood comb from the driven hives, and have to feed them. I should

like to know whether you think I shall succeed with them.—JAMES HOUGH, *Middlewich, Cheshire*.

[Your driven bees should be promptly and liberally fed, so as to induce them to extend the combs with which their hives have been furnished. If the supply of food be continued until each stock weighs from 15 to 20 lbs. nett, there is every probability of your success.]

### REMOVING TO A SHORT DISTANCE A STOCK HIVE.

THE following method for removing bees in the summer from one part of the garden to another, successfully prevents them from returning to their former stance.

About midday partially drive the stock which it is desired to remove, into an empty hive. Place the empty hive with driven bees on the old site, and the driven stock on the stance intended for it to occupy in future. Then, towards dusk, when the bees are all home and not liable to take wing, carry the empty hive with driven bees to the driven stock, and by a sudden jerk eject the bees on to a newspaper. Hold the newspaper to the entrance of the driven stock, and the bees will hastily march in, and take possession of their old abode. Next morning they will, on taking wing, examine their new quarters, and few, if any of them, will return to their old locality, or if they do, it will be merely to make a flying visit, and return.—R. S.

HOW TO EAT BANANAS.—The fruits of the Banana and Plantain are eaten in a variety of ways. They form alike the savoury and sweet dishes in their native lands, and whichever way they are treated they are always much esteemed. Both raw and stewed they are served up as a dessert fruit; sliced and fried with butter, they are considered a great delicacy. They are also used by the natives for making puddings, the pulp being pounded or beaten up into a paste; simply boiled they are frequently eaten with salt meat. But, whichever way it is taken, the Banana is equally nutritious and wholesome. The experience of M. Boussingault in testing the nutritive qualities of the Banana is very interesting, and we cannot do better than insert it here. He says—"I have reason to believe that the nutritive value of the Banana is superior to that of the Potato. I have given as daily rations to men employed at hard labour about 6½ lbs. of half-ripe Bananas, and 2 ozs. of salt meat." Nor is this fruit valuable alone when freshly gathered; unlike most fruits of a similar succulent nature, it can be manufactured into a highly nutritious and valuable meal. This is effected by depriving the fruit of the outer skin, then cutting it in slices and thoroughly drying it in the sun, after which it is powdered and sifted. The sliced or preserved fruits likewise form an important article of trade in the Society Islands.—*The Englishman's Magazine for August*.)

INCREASED IMPORTATION OF EGGS.—From an official document just issued it appears that in the seven months ended the 31st July last, as many as 233,706,240 eggs were imported against 207,790,320 in the preceding year. In July last, compared with the same month in the preceding year, the increase exceeded 3,000,000.

### OUR LETTER BOX.

DORKING COCK WITH ONE EYE (*J. R.*).—The loss of an eye is not a disqualification in a Dorking cock.

ROUEN DUCK'S WING (*Subscriber*).—The wing you describe is a correct one.

PIGGERY (*J. France*).—Our correspondent would be obliged by being informed where he can see "a first-class piggery, kept on scientific principles." We shall be obliged by an answer being sent to us.

### LONDON MARKETS.—SEPTEMBER 2.

#### POULTRY.

SUPPLY ample and trade dull. The first great supply of Grouse is over. This has had its influence on prices, but the advent of Partridges will be a counterpoise to prevent any great rise.

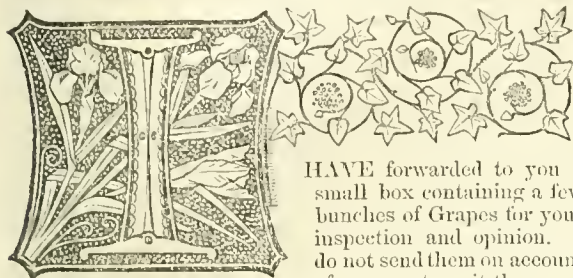
	s. d. s. d.		s. d. s. d.
Large Fowls.....	2 6 to 3 0	Grouse .....	1 9 to 2 6
Smaller do. ....	1 9 „ 2 0	Partridges .....	0 „ 0 0
Chickens .....	1 3 „ 1 6	Hares .....	0 „ 0 0
Geese .....	6 0 „ 6 6	Pigeons .....	0 8 „ 0 9
Ducklings .....	2 0 „ 2 6	Rabbits .....	1 4 „ 1 5
Guinea Fowls .....	0 0 „ 0 0	Wild do.....	0 8 „ 0 8

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 12-18, 1865.	Average Temperature near London.			Rain in last 33 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.		Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.		m.	s.	
12	Tu	Sycamore leaves dirty brown.	68.8	44.8	56.8	15	32	af 5	21	af 6	53	10	48	af 1	23	3	53	255
13	W	Elder berries ripe.	67.8	45.6	56.7	17	33	5	18	6	52	11	38	2	23	4	14	256
14	Th	Foxtail Oat Grass ripe.	66.7	46.3	56.5	19	35	5	16	6	morn.		21	3	24	4	35	257
15	F	Lime tree leaves turn yellow.	67.1	46.2	56.8	19	37	5	14	6	55	0	55	3	25	4	56	258
16	S	Horse Chestnut leaves change.	68.3	47.5	57.9	15	38	5	12	6	0	2	26	4	26	5	17	259
17	SUN	14 SUNDAY AFTER TRINITY.	69.1	47.7	57.4	14	40	5	9	6	4	3	52	4	27	5	38	260
18	M	Sycamore leaves fall.	66.8	46.8	56.8	17	41	5	7	6	9	1	17	5	28	5	59	261

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 67.8°, and its night temperature 46.1°. The greatest heat was 86°, on the 12th, 1858; and the lowest cold, 29°, on the 17th, 1840. The greatest fall of rain was 0.90 inch.

## PHENOMENA IN RAISING SEEDLING GRAPES.



HAVE forwarded to you a small box containing a few bunches of Grapes for your inspection and opinion. I do not send them on account of any great merit they possess,

but more to illustrate a subject on which I am somewhat sceptical—namely, the crossing of Grapes.

I believe that the majority of Grapes sent out of late years as cross-bred varieties are in reality no crosses at all, but simply sports from seed, that many plants long under cultivation are liable to produce.

No. 1 is a white or golden seedling raised from seeds of Wilmot's or Dutch Hamburgh, without any artificial impregnation by any white variety whatever, or by any chance of such impregnation having taken place by accidental or other circumstances, as no white Grape was in cultivation in this place when the seeds were saved that produced the plants from which these bunches were cut. This variety is a fortnight earlier than its parent, hardy, prolific, and hangs well; the specimens sent are not fair samples of either bunch or berry.

No. 2 is a white seedling from the same source as No. 1. Bunches generally large, loose, and sets very indifferently; a fortnight later than its parent. Seeds saved from the same bunch as No. 1.

A third seedling, raised from the same parent as the above, has proved identical with Busby's Golden Hamburgh, with all its faults and failings most disagreeably conspicuous, convincing me that Busby's is really a seedling from the Black Hamburgh, although at the time of its distribution considerable controversy took place that such was really not the case. For my own part I never once doubted the circumstance. My only doubts are as to its being a cross with the Sweetwater. I am now perfectly convinced that it is not so.

I may here also state that I have produced the Chasselas Musqué true from seeds from the White Frontignan, and it is just possible that Mr. Josling did send out a seedling of his own when he distributed his "Josling's St. Alban's," although it turned out to be identical with Chasselas Musqué. It is a curious fact that out of a number of seedlings saved from the Black Hamburgh I have not been able to obtain one black Grape.

I also enclose you a bunch from a Vine received from a friend in Spain. The fruit I send was perfectly ripe in the first week of May, and has been hanging on the Vine just in the same state as you see it: I think it would hang for months to come. The name sent with it was "De Rey." There is also enclosed another Spanish Grape like the

Ciotat, or Parsley-leaved. The Vine was received here under the name of "Chypre fino." It may be somewhat different from the old Parsley-leaved, but of this I am not certain. The above were all produced in ten-inch pots.—T. M. LINDSAY, Gardener to Robert Napier, Esq., West Shandon Gardens, Helensburgh, N.B.

[These illustrations of Mr. Lindsay's furnish another proof that in the vegetable as in the animal kingdom, when a fixed form has once been broken in upon, there is no end to the vagaries that follow, without any hybridisation whatever, and affording evidence in the opinion held by many, and by ourselves among the number, that the primary agent in breaking in upon the normal form so stamps its impress on the progeny, that at a certain indefinite period its similitude crops up, so to speak, where it would be least expected. From these and other experiments we have seen with Grapes and other fruits, we believe that one of the parents of the Dutch Hamburgh was white, and we would even go as far as to say that one or other of these white seedlings raised by Mr. Lindsay from the Dutch Hamburgh is identical with, or very little removed from, that white parent.

We have lately seen some remarkable examples of this—one at Messrs. Rivers' of Sawbridgeworth, where Mr. Rivers, sen., having raised a very fine melting Peach from the Pitnaston Orange Nectarine, sowed the stones of this Peach, and in return it produced two distinct Nectarines, one with a yellow flesh, and identical in every way, both in fruit, flowers, and leaves with its grand-parent the Pitnaston Orange, and another a white-fleshed fruit, in all probability identical with its next preceding ancestor.

Another instance that we have seen is at the Ascot Nursery, where Mr. Standish has raised his fine new "Royal Black" Grape from Bowood Muscat impregnated by Early Saumer Muscat; and yet this Royal Black possesses no trace of Muscat in its flavour, but is a remarkably early jet-black Grape, as large as the Black Hamburgh, and ripening nearly three weeks or a month earlier. Now, we have not the least doubt but that one or both of those White Muscat Grapes had at some time or another an infusion of the black strain in the parentage.

These are most interesting physiological questions, and give great scope and interest to the present new ideas in modern gardening, and we hope to be furnished with much more evidence, so as to enable us to draw some practical conclusions on the subject.

SEEDLING No. 1 bears considerable resemblance to Golden Hamburgh, but is more firm in the flesh, it being in this respect somewhat similar to the old Black Hamburgh. The skin is perfectly white, and, when dead ripe, of an amber colour: judging from the specimens sent, it is not nearly so good in flavour as the following.

SEEDLING No. 2.—Had there not been other varieties bearing the names of White Hamburgh and Golden Hamburgh, either of these names would have been far more applicable to this variety than to those that bear them. This is in fact a real Golden Hamburgh: in every respect—in size and shape of the berries and flavour of the fruit it is a Hamburgh, and even in the "hammered"



appearance of the berries it closely resembles the Frankenthal, or Victoria Hamburg as it is sometimes called.

DE REY.—This is evidently meant for the Uva de Rey of Spain; but this must be a misnomer, as, according to Clemente, the Uva de Rey is white. The variety sent by Mr. Lindsay is red. It produces a fine large bunch, remarkably well set, and fine round Hamburg-like berries. The skin is thick, and of a uniform dark red, somewhat of the colour of Gros Gromier du Cantal, and adheres closely to the flesh, which is tender, very sweet, and of fine flavour; but the centre is hollow, as in the Dutch Hamburg. The berries adhere very closely to the stalks, and, indeed, show a tenacity in this respect such as we have never met with in any other Grape; it is, doubtless, on this account that the variety is so well adapted for drying; the bunch sent us having the berries, though still plump, in the condition of almost a sweetmeat.

CHYPRE FINO we cannot say much about.

We are much obliged to Mr. Lindsay for his valuable communication.]

### GATHERING AND STORING FRUIT.

THE essentials of a fruit-room are—first, a low and equable temperature; secondly, exclusion of air and light; and thirdly, freedom from frost and damp.

Warmth tends to ripening, causing fruits that are capable of long keeping to be fit for use days and even weeks earlier than they would be if kept in a low temperature; and this early maturity of the fruit is had at the expense of its juiciness and flavour. When the temperature is variable it acts prejudicially on the keeping of the fruit, by at one time tending to ripen and at another to a retarding of that process. A variable temperature is a most prolific source of fruit not keeping, and it is destructive of every good quality of the fruit. The fruit very often decays at the core before it is fully ripe, and sometimes rots, and is seldom melting and delicious, but mealy and flavourless.

The exclusion of air acts as a preservative, for the oxygen of the air is necessary for decay. The presence of air is needed for the elaboration of saccharine matter; but as fruit-rooms are for the preservation of fruit, that which tends to ripening should be carefully excluded, of which air and light are the next in importance to warmth.

Freedom from frost is important in the keeping of fruit, for the cells of the fruit are ruptured by frost, and their juices then speedily pass from fermentation to putrefaction on the fruit thawing.

Damp is no great evil in itself, and does not necessarily lead to decay unless accompanied by warmth and the presence of air. But inasmuch as it tends to and hastens decay, damp should be avoided; but even slight damp is better than dryness with warmth, and the presence of light and atmospheric air, for the presence of these are indispensable for the ripening of fruit, and frequently convert the long-keeping into short, and juicy fruit into shrivelled, sweet, but juiceless, and sometimes mealy instead of buttery.

Now, to secure the essentials above named, nothing answers so well as a dry cellar or room underground. It secures a low and equable temperature, the exclusion as much as is practicable of air and light, and freedom from frost and also damp, especially of that kind resulting from a thaw. The coolness and equable temperature of a cellar is desirable because we wish to keep the fruit without ripening or decay to the longest period, warmth tending to ripen and cold to a retarding of that process; light and the presence of atmospheric air hastening, and their exclusion securing in contact with the fruit the carbonic acid emitted by it in ripening, which is well known to be one of the best preventives of decay. A cool dry cellar, therefore, answers more fully the requirements of a fruit-room than any other description of room.

I am aware that this is directly opposed to the desirabilities of a fruit-room insisted on by many excellent authorities. What is chiefly sought for by them is dryness, but there is such a thing as too dry a room for fruit. So long as there is no deposition of moisture on the fruit the room is not in the least too damp, and when the fruit shrivels the room is certainly too dry, and though it may not lead to decay, it certainly does impair the juiciness, and the firmness and beauty of the fruit are gone.

Extremes of either dryness or moisture are the attendant evils of fruit-rooms on first and second floors. They are at times very dry, especially during the prevalence of windy

frosty weather, when artificial heat may be necessary to keep out frost, and at others they are very damp, rendering fire heat necessary as a means of drying up the moisture that runs down the walls. The employing of fire heat is in itself sufficient to stamp fruit-rooms requiring it as not adapted to their purpose, for we do not want to keep fruit warm but cool, yet we must have a fire during warm damp weather, especially that following a thaw, in order to keep the room sufficiently dry, and we thus make bad worse, for in addition to firing air must be given, and thus we have an excess of damp, warmth, and air, all contingencies promoting decay. I do not hesitate in stating that fruit, especially Apples, would keep much better, more plump, and sound, pitted like Potatoes, than in many fruit-rooms which are really not calculated for keeping fruits, but to hasten their ripening, and cause them to decay long before their customary period. I am not writing upon hypothesis but from experience, which has taught me that a cool room, an equable temperature, darkness, and moderate dryness are necessary for the preservation of fruit. Fruit-rooms on first and second floors are good places for ripening fruit, and it is next to impossible to keep it in them without a large percentage of waste.

The site of the fruit-room should be dry, and if not so naturally it must be made so, and have a north aspect. The best are those with a room underground for the late-keeping, and a room above ground for those fruits that are not long-keeping, and are more or less in a stage of ripening when taken from the trees. In constructing a fruit-room the soil should be taken out 9 feet deep, and 2 feet wider on each side than the required width; 18 feet being a very convenient width, allowing of bins a yard wide all round, and a centre one of 6 feet divided into halves by a partition up the middle, and it may be of any length, and, of course, of whatever dimensions that the quantity of fruit will require. Along the centre a drain should be laid, and one all round the outside of the foundation of the walls and communicating with the centre drain. The flags of which the floor is formed should rest on pillars a foot higher than from whence the soil was taken, and under no consideration be laid on the soil. This foot of space beneath the floor is to be filled with rubble. The walls are to be built hollow, and to insure stability, have throughs every other course. The air we want enters the cellar by drain-pipes with the joints cemented, extended from and communicating with the hollow space in the wall, and thence passing under the floor and opening out through the pathway, a hole being cut in the flags for the purpose, the pipes having a bent end on purpose, their opening or mouth being stopped with a plug. Six of the drain pipes (three on each side), one end communicating with the hollow or cavity in the wall, and the other opening into the cellar at the floor in the pathway, as before mentioned, will be sufficient. The wall is to be carried up hollow for 7 feet, and there the throughs must be mortared so as to divide the hollow part below from that above, and just below this air-holes are to be left in the outer wall corresponding to those left in the inner wall at the base of the building. The wall is then to be built hollow as before for 1 foot, and then throughs again, and mortared as if the wall were solid. There will be openings left in this part both of the interior and exterior walls to allow of any vapour that may arise in the cellar passing out at the upper part, and its place being occupied with colder and fresh air by those openings from the floor, advantage being taken of a dry frosty day. The wall is then built hollow as before for 9 feet above the roof of the cellar, which, of course, will be the first floor, and there is the same means applied to admit air at the floor and to allow the damp and vitiated air to escape at top. The room on the first floor will, of course, have its ceiling, and the tiles or slates will be laid on asphalt. There will be caps for all the openings to admit or let out air, and whilst we have no windows in the cellar, we must have two in that room on the ground floor and furnished with shutters inside. The outside walls are to be coated when dry with boiling coal tar, and have three of such coatings. All round, as there is a two-foot space, rubble is to be placed against the cellar walls and level with the surface, and it is not there to be covered with sods, or turf, or soil, but with coarse gravel. Under present arrangements we shall have no damp but what comes from the interior, of which we will now treat. We have a trough or bin a yard wide all round formed of stone, and 9 inches in depth, excepting where the steps are, and above this, at 2 feet, we have another shelf or bin, and at every 2 feet upwards another, and a fourth 2 feet higher than it. The first is 9 inches in depth, and the second likewise, the next 6, and the



other 3 inches, and each 3 inches less in width progressively upwards. The centre is simply a counterpart of the outside, and is divided by a partition of stone.

So much for the fittings of the cellar. The upper or fruit-room on the first floor should be furnished with wood-shelves, and beech wood is the best. They may be of the same width, but the lowest should not be more than 6 inches, and the upper shelf not less nor more than 3 inches in depth. A four-inch hot-water pipe laid under the pathway, and covered with a grate will complete the arrangements of the room on the first floor. It is scarcely necessary to say the walls should be plastered and well whitewashed, and have effective spouting to carry off the water from the roof.

We have now a fruit-cellar and a fruit-room, and need not care for anything further, unless it be a "ripening-room," which need only be half the size of either the other rooms, and fitted up with birch, beech, or elm shelves, two all round; the first a yard from the floor, and the other 18 inches above it, and 1 foot less in width, with a ledge all round for half an inch of dry silver sand. In the centre should be a table 4 feet wide and 3 feet from the floor, having another 18 inches above it, and half the width, and only extending so far as to leave a space of 12 feet without the upper shelf over the first centre shelf. This part of the shelf is to be covered with green baize, and divided into squares by half-inch strips of birch wood dyed, the first 1 foot from the edge longitudinally, and then cross-wise the entire width; the outer into foot squares, and the central one into two-foot squares. This part is for fruit fit for table, from whence the proprietor can select at will, and to treat and present to friends. This room will require to have a glass roof, and be heated so as to maintain a temperature of 45° to 50° in winter, and provision made for thorough ventilation.

I do not intend to maintain that fruit cannot be kept sound without the appliances I have detailed, but the rooms most resembling these I have found best for keeping fruits. The cellar would take the long-keeping and those desired to be kept a longer period than usual; the fruit-room proper the autumn and early winter fruits; the ripening-room being desirable to bring out more fully the flavour, from the presence of air, light, and warmth being necessary for the elaboration of saccharine matter. When it is not desirable to "keep" fruit (but I am ignorant of when that is), any cool dry room will do for storing Pears, and it does not matter about their being kept in the dark. The fruit in such a room will ripen in due season, the different kinds following each other in the order of ripening. For Apples a room of this kind is not desirable, for the presence of light and air will cause the fruit to shrivel, whereas we wish them to be firm, juicy, and crisp.

Fruit should be gathered before it is fully mature, and so soon as it parts easily from the tree by reversing its position. The fruit is to be gathered on a dry day, and after a continuance of dry weather, and during the mid-day hours chiefly.

The main points in gathering fruit are to avoid bruising, to be sure that it is dry, and nearly mature, but not so much the latter as to fall from the trees when touched or disturbed. To guard against bruising, the gathering-basket should be lined with cloth, and the fruit placed carefully in it, and as carefully taken out one by one and laid on a floor, and if covered with dry sand all the better. It should not only be gathered and handled with the greatest care to prevent bruising, but the nails of the fingers be kept from penetrating through the skin, and that scrubbing and rubbing should be avoided, which some people seem to take a pride in when they get hold of fine handsome fruit. The practice of gathering fruit into a small basket, emptying into a larger, and then tumbling the whole on to a hard floor is pretty nearly obsolete, and where it is still practised should be at once abolished. Small bruises inflicted at the time of gathering and the storing of fruit in the slightest cracked or bruised, or having small holes in them, whether the results of birds pecking at them or wasps digging into them, is certain to lead to decay, not only of the fruit so eaten or bruised but of those which are sound if in contact with the decaying fruit. Injured fruits should be taken from the sound and stored by themselves.

The day after the fruit is gathered it should be stored away, and not left in heaps to heat or sweat. The autumn and early winter fruits should be placed in the fruit-room, commencing with those that keep the shortest time, placing them on the upper shelves, which are best covered with half an inch of dry pit sand. The fruit will rest easily on the sand and not be bruised in the laying, as it may be when laid on

the hard shelf. Each fruit to be laid so that it does not touch that adjoining, and when the first tier is laid they should be covered with dry sand so as to cover the fruit about an inch. The second shelf downwards will take two tiers with half an inch of sand between if the fruit be small, or one if large, with a covering of 2 inches of sand. The third shelf two or three tiers of fruit according to their size, to be covered with 3 inches of sand, and the lower tier in like manner, placing that which will keep but a short time on the upper, and the longest, and so on progressively downwards. Any fruit not keeping beyond a few days need not be stored in this manner, but be placed in a room from 45° to 50°, and with both light and air; and all fruit, especially that for dessert or table use, should be brought from the store fruit-room ten days to a fortnight before using and placed in a room having warmth, air, and light. It will thus be vastly improved in appearance and flavour. A temperature of 40° to 45° is sufficient after November, whilst 45° to 50° will be better previously.

I will now say a word as to placing fruit on the bare shelves. The fruits are bruised by so lying, and being exposed the air plays too freely around, and they are sure to be handled more, whereas fruit cannot be handled too little. Some Apples and Pears keep fairly on shelves, but they may have a turpentine taint if the wood forming the shelves be deal. As for placing fruits on and covering them with straw I can only say it is not objectionable for baking-Apples and stewing-Pears, if it be Rye or Wheat straw and very dry and clean, but even the bare wood is to be preferred for dessert fruit.

The long-keeping fruit is to be housed in the cellar, remembering that the lowest bins are for the very long keeping Pears and Apples, and the Walnuts and Filberts, and if there be a damp place in it that is the place of places for the last two. Two tiers only to be placed in the two lowest bins, no two fruits to touch, and the bin to be filled with sand. For very long keeping one or more bins should be filled with fruit packed in and covered with powdered charcoal, which is undoubtedly the best preservative known. It would add to the keeping if a few stone jars were filled with fruit, packed in either sand or charcoal dust so that no two fruits touched, burying the jar in the sand in the bin, and covering with at least 9 inches of sand.

The fruit being stored away, and none but the really sound stored, it will not be necessary to examine it before its usual season of ripening, when a few fruits being seen to will soon determine whether they will not keep longer. In that case a part of the fruit is to be placed where it will ripen fully. If it will keep longer then a part as before may be taken out to ripen, and the others remain longer until all are removed for ripening. Any that are expressly packed for very late keeping should not be touched until the time arrives they were calculated upon to keep—say, Ribston Pippin Apples until February, Scarlet Nonpareil to March, the Old Nonpareil to May; and of Pears, Glou Moreau to February, Beurré de Rance to May, and Ne Plus Meuris to May and occasionally June, it being the latest-keeping Pear of which I have experience.

I will now say a few words in regard to the keeping of Brown Beurré Pears, being those regarding which a correspondent, asked particularly, and whose query prompted me to write these notes. The Brown Beurré usually is a good keeping variety though its season is early, and not very long. In an ordinary fruit-room it comes into use at the end of October, and continues well nigh through November, and occasionally into December. In a cool, dark room its season is prolonged a fortnight or three weeks. It is needless attempting to keep such Pears as this beyond their season, and I find more Pears rot because they will keep no longer, and people then say they have kept badly. Fruits are no exception to the rule, everything has its season. Pears as they ripen must, therefore, be used, or they will decay. We can only look upon fruit as bad-keeping when it decays before it is fit for table. In that case the fault usually lies in gathering and storing; probably the fruit being over-mature when gathered, or cracked, wounded, or otherwise defective.

But to resume. Fruit stored in an ordinary fruit-room, and, in fact, in any room, will need looking to at the least once a week, more especially when it is stored so that the fruits are in contact, and then determine how the different kinds come on for ripening, and as far as can be done remove any fruit beginning to decay. It is a bad practice to be continually handling and turning fruit over, and knocking it about. The less of this the better. Once stored there let it remain, for if the



fruit be stored in sound condition it will keep just as well as if every fruit were overhauled daily. This not intermeddling with fruit is not to interfere with that supervision necessary to learn when it ought to be placed in a warmer and lighter room, for fruit does not always keep the same length of time. There is this advantage in having the fruit on shelves, that it is easy to pick out the ripest or most forward; and there is a still greater advantage in placing it on sand—that it will keep longer, and a decaying fruit not contaminate those next to it, for shut out to a great extent from atmospheric changes, there is no fluid exuded.

In addition to examining a fruit-room to ascertain the keeping and maturing of the respective kinds, it should be opened every dry day to dry up damp, if there be any, and to keep the room cool, nothing contributing to this more than a thorough draught. If the room be not damp, then keep closed, and when opened admit no more light than is really unavoidable, and what air it is necessary to give let it be with a dry atmosphere outside, and from 10 A.M. to 4 P.M. During damp weather the room may be so damp that it is really imperative to give air, and to get the air in motion a gentle fire may be lighted, and what heat is given be only during the midday hours, allowing the heated surface to become cool before the room is closed at night. Fire heat applied for the purpose of promoting a circulation of air should not upon any consideration be so great as to raise the temperature. During severe frosty weather a little free heat may be needed to prevent the temperature falling to or below freezing. The nearer the temperature to, and yet above, freezing, the longer and better the fruit will keep. From fire heat the temperature should never exceed 40°. Very few, if any kinds of Apples and Pears, will ripen perfectly in so low a temperature; above 40° they are more or less advancing towards ripening.

For autumn Pears, which do not keep for any length of time, no place answers so well as a cool orchard-house or vinery. The light, the air, and the moderate temperature render the fruit very highly flavoured, and to have them melting they should be taken from the trees before they are so mature as to drop of their own accord. Such maturity renders melting Pears when stored either woody and juiceless, or mealy and insipid, which is the case with Benrê Superfin very often from a wall, when gathered quite mature, and an example of the meanness may be found in the Bon Chrétien. Of the late Pears, I only know of one instance, and that is the Easter Benrê, which from a wall is very often mealy, and from an espalier melting and perfumed, as it always is when in perfection.

It very often happens that the crop of some autumn Pears is so great that it is a question what to do with them, as they all ripen together. Now, by gathering those that are the most mature a fortnight to three weeks earlier than the general crop, or by making two or three gatherings from a tree instead of one, their season will be considerably lengthened; those gathered being placed in a room conducive to their ripening.

Lastly, fruit that is gathered before it is fully mature will be the longest keeping, and by far the best flavoured; but if such fruit be kept in a light, dry room, it will shrivel, and though high flavoured be other than juicy, melting, and refreshing.—G. ABLEY.

#### PLANTING VINES INSIDE OR OUTSIDE.

In replying to "W. B. A." in your Number of the 29th ult., on the subject of planting Vines inside or outside a house, you say, after recommending inside planting, that the roots must not get under the arches or wall plate, so as to reach the outside border. If so, what is the use of an outside border? Having erected a vinery of late with arches in the front wall, the Vines planted inside, and the outside border as carefully made as that inside, I am startled by your observation.—W. F.

[We fear that our answer to "W. B. A." was not explicit enough, and so far as we recollect it is not exactly as we had written it. Alter the part of sentence thus, "but the inside border must be higher than the outside one, and the roots must not descend to get under the arches, in hopes that they will rise into a higher border outside." We said nothing as to the "roots must not go under the arches or wall plate, so as to reach the outside border." If we were crude, you have not quoted correctly. If we had said so, you might well say, "If so, what is the use of an outside border?" Though the above meaning could hardly be drawn from our short note, we are much obliged to you for drawing attention to the want of explicitness. The matter has lately been so often alluded to, that no doubt we

wrote more carelessly than we otherwise would have done. We have few Vines planted inside ourselves, because we would have to disarrange the internal finishings to do so. We have, however, strong reasons for having them all planted inside. Several times we had Vines eaten by rats and mice at the holes where they entered the wall, and this would be less likely to be the case if the stems were all exposed inside. The stems of Vines will not pass some of our winters uninjured without protection, and if we protect with wooden boxes, with sawdust, &c., these boxes, again, give admission to vermin to lodge in them. Even if the border inside is not very wide, but the wider the better, that border is more completely under control as to wetness and dryness, cold and heat, than any border can be that is placed outside, unless there is the trouble and expense of protecting, and that too with waterproof material.

The above are some of the reasons for planting inside. The Vines, also, at all times are more under control. There is no objection whatever, in general circumstances, to having a border likewise outside, and allowing the roots to have free access to that border, by arches or other openings beneath the wall plate, and we like the latter better than arches, because if the border inside is as high as the wall plate, the roots can get out without having to descend much. The term, "must not descend," in the paragraph alluded to, has reference to a fact we have often observed. The front wall was built on arches, leaving, perhaps, some 15 or 18 inches of wall above the arches. The border inside in which the Vines were planted might be little above the crown of the arch, whilst the top of the border outside might be some 15 or 18 inches above the top of the arches. We have had to manage several vineries where the inside border was as much lower than the outside one, and less or more, such circumstances always told against the well-being of the Vines. The mound of earth over the roots outside was rarely penetrated with healthy fibres. It is on such accounts that we advise the inside border to be the higher of the two, and, if there are arches or other openings, that the roots may pass freely into the outside border without being expected to descend much to the arch, and then rise above it outside. Were the choice given us, to have a low border for Vines inside of a house, a high border for the roots outside, and the Vines planted inside, and, on the other hand, a border altogether outside, the roots being where we liked, then we would choose the outside border. But where, however narrow, the inside border is the higher, and the roots have free access outside, and the border, as a whole, slopes from the inside to a lower level at the front of the outside border, then we would decidedly plant all our Vines inside.

#### THE RIPENING OF OUT-DOOR FIGS.

THE explanation of the cause (by "G. S.," page 166), of our obtaining ripe Figs in Jersey some three or four weeks earlier than they can be obtained near London is very satisfactory. I will endeavour to mark some of the autumn-grown Figs here to confirm what I have but little doubt is true.

It has appeared to me, from simple observation, that this fruit thrives best near the sea. In England it may be gathered in perfection in gardens on the Sussex and Hampshire coast, and in the Isle of Wight; the garden at Tarring, near Worthing, perhaps, taking the lead; and who knows but that Thomas à Becket may have walked in the cool arbours formed by these same venerable Fig trees, and have refreshed himself with the fruit thereof? for the ruins of his house are there. But the theory of the Fig's early ripening in Jersey will not, I think, hold good with other fruits and vegetables that ripen here in the open air, and which in England require some forcing. I may instance Melons, Cucumbers, and Tomatoes, all of which ripen in my own garden from seed sown in the open ground; the mildness of our winters would not alone account for this.—A. T., Noirmont, Jersey.

[Would not the general mildness of all the seasons in the Channel Islands?—EDS.]

FUCHSIA BLOOMS INJURED BY BEES.—A short time ago you were kind enough to answer an inquiry I made respecting the decay and destruction of my Fuchsia blooms, and you suggested that the effect might be produced through the agency of bees impregnating the blossoms. In compliance with your sugges-

tion I covered the ventilators and windows with fine tiffany, so as to exclude the bees. The result has been most satisfactory. Not a bee has entered the greenhouse, not a single bloom has failed prematurely since the plan was adopted. As you wished to know the result, and as it may be useful to other novices, I communicate it to you as soon as there was no doubt of the fact.—F. R. G.

## THE BEST ROSES.

HYBRID PERPETUALS.—Those of which I now give a list have good constitutions, and their other attributes are all good.

- |                               |  |
|-------------------------------|--|
| 1. Charles Lefebvre.          | 19. Lord Macaulay.                     |
| 2. Senateur Vaisse.           | 20. John Hopper.                       |
| 3. Cecile de Chabillant.      | 21. Souvenir de la Reine d'Angleterre. |
| 4. Maréchal Vaillant.         | 22. Madame Knorr.                      |
| 5. W. Griffiths.              | 23. Monsieur de Montigny.              |
| 6. La Ville de St. Denis.     | 24. Prince Camille de Rohan.           |
| 7. Baronne Prevost.           | 25. Due de Cazes.                      |
| 8. Anna Alexicff.             | 26. Alfred de Rougemont.               |
| 9. Caroline de Sansal.        | 27. Pierre Notting.                    |
| 10. Comte de Nanteuil.        | 28. Baronne Pelletan de Kinkelin.      |
| 11. Duchesse d'Orléans.       | 29. Madame Victor Verdier.             |
| 12. Madame Clémence Joigneux. | 30. Triomphe de Paris.                 |
| 13. Duchess of Norfolk.       | 31. Duchess of Morny.                  |
| 14. Mlle. Julie Daran.        | 32. George Prince.                     |
| 15. Madame Boutin.            | 33. Leopold Premier.                   |
| 16. François Lacharme.        | 34. Achille Gonod.                     |
| 17. Général Jacqueminot.      | 35. Eugene Verdier.                    |
| 18. Jules Margottin.          | 36. Madame C. Crapetlet.               |

The foregoing are the best thirty-six to have.

### BOURBON ROSES.—First-rate, and the best.

- |                         |                           |
|-------------------------|---------------------------|
| Acidalie.               | Souvenir de la Malmaison. |
| Baronne Gonella, extra. |                           |

FOR POLES.—Sir J. Paxton

### BEST CLIMBING ROSES for South Wall.

- |                             |                           |
|-----------------------------|---------------------------|
| Solfaterre, yellow.         | Gloire de Dijon, yellow.  |
| Triomphe de Rennes, yellow. | Celine Forestier, yellow. |

For East Wall or South Wall.

- |                           |                           |
|---------------------------|---------------------------|
| Acidalie.                 | Sir J. Paxton.            |
| Madame Louise Carique.    | Général Jacqueminot, H.P. |
| Madame Schultz, yellow.   | Jules Margottin.          |
| Celine Forestier, yellow. | Anna Alexicff.            |
| Gloire de Dijon, yellow.  |                           |

They are strong growers, hardy, and bloom abundantly. Celine Forestier and Madame Schultz require but little cutting. Here they are all best on Manetti. Even for poles and walls there is no stock so good as Manetti. If the land is strong they will all do well on Briar stocks.—W. F. RADCLIFFE, *Tarrant Rushton*.

## MUSHROOM SPAWN—MUSHROOM BRICKS.

To oblige "A Lover of Mushrooms" I will write a few lines on this subject, but have written so much on the same that it will be easier, and perhaps more suitable to your correspondent to write afresh, instead of making many references.

"Made some Mushroom bricks," I said at page 178, is what he wishes to have explained, &c. Now, where only one or two Mushroom-beds are made in the season, on the principle of the division of labour it will generally be the most economical to buy Mushroom spawn at from 5s. per bushel from a nurseryman. Where Mushrooms are wanted all the year through, and even when a few could be had from the pastures they must not be sent to the kitchen—then it may be advisable to have a stock of spawn beside us, whether we go to the market for a portion or use all of home make. Though we have had and seen very poor spawn sent out, so that the carriage cost ten times more than it was worth, I must say that on the whole the most of our nurserymen and seedsmen take a pride in sending out a first-rate article, and I do not consider from 5s. to 6s. too much for a bushel of good material, as, even under the most favourable circumstances, considerable care and watching are required to get it in first-rate condition. I am well aware that the man who makes a thousand or two thousand bushels at a time could do it much more economically than I could make some ten or more bushels. It is very useful to have a nice heap of good stuff beside you, however; and then in these days we ought to know how to do everything, even if we are not called upon from circumstances to engage in doing it.

There are many ways of making Mushroom spawn: I will describe the plan generally adopted by us. We obtain a barrow-load of cowdung, rather stiff than otherwise, and add to that

two barrowloads of horse-droppings, with a few short pieces of straw in it, and about a half-barrowload of rough bits of loam. We work all this well together until it looks like a heap of well-mixed mortar. The less water that is used and the stiffer it is the better. Sometimes the material is rather moist and close, and then we add a bushel or two of cut straw to make it more open; but if all is right, we care about little more than the cowdung and the horsedung. So much for the material.

Then for the bricks, we have a slight frame made with four pieces of half-inch board—about 18, two sides and two ends enclosing a space 9 inches long, 4½ inches wide, and 1½ inch deep, just like a mould for bricks, only shallower. We used them exactly of the same depth as bricks, but then they took longer to dry. The mould will answer as well, if not better, if made of thin iron instead of wood. The board-frame, however, answers well enough. Then the next thing is to have a flat clean board and a bucket of water. The frame is placed on the board, filled from the prepared heap, struck level on the top with a clean spade or flat trowel, and the contents, the dung-brick, struck out on a piece of wood, so as to lie flat. To prevent the dung sticking to the mould, the latter is just dipped into the pail of water; the second brick is made the same as the first, and so the process goes on, brick after brick being turned out, and placed on boards or other convenience much faster than I can tell how. From dipping the mould, the sides of the brick will come out smooth and a little damp, but they will soon dry. We like to place the bricks anywhere, so that the rain does not come on them. We shall suppose that they have been on their broadsides for a couple of days, then we go along them, and with our finger, or if rather dainty with a round wooden pin, make two holes in each brick equidistant from each end, and not going quite through the brick. In another couple of days the bricks may be turned on the other side flat, then in a few days set up on one edge, and then again set up on the other edge, and they will soon be firm and dry enough for spawning. Those mentioned at page 178 are just now (September 7th) spawned. This is done by taking some spawn, breaking it into little pieces, so as to go into the two holes of the dung-brick, making it go in pretty tight, and then drawing a little awdug over the place to prevent falling out. When thus sawned the bricks are built loosely in a heap, and placed on op bed of litter that will just emit a little heat, and surrounded with litter, so as to give a heat to the heap of about 85°, and not more. Of course with such weather as we have now little heat will be required; a slight covering just to prevent over-drying will be sufficient. Overheating will soon spoil the whole. The bricks should be examined, and as soon as the spawn works into the whole brick that brick should be removed to a dry place. Some will not run so freely as others, and, therefore, in a large heap there may be several harvestings. The bricks should be removed as soon as they are permeated by threads finer than the finest silken ringlets. When the spawn appears in threads as coarse as that generally used for sewing, it is a sign that these threads have run rather too much. When harvested in a dry place such spawn will keep good for years. It is well, however, to keep it covered with dry moss or refuse hay to prevent its becoming too dry and hard. There is less trouble in doing all this than in writing about it; but success will consist generally in attending to these matters of detail.

We thus make bricks because it suits our purpose to do so, and because they are easily moved about. We have seen lots of spawn made in a much simpler way, and which, if the weather was dry or there was plenty of shed-room, answered very well. The material was obtained, mixed, beaten, and mingled much as I have stated above. It was then spread out on a hard floor or bottom to a depth of from 1½ to 2 inches, and made firm and smooth on the surface by beating, or by passing a smooth damp roller over it. When it had thus lain a day or two it was cut out into squares, or any other desirable shape, by means of a clear sharp edging-iron, and when dry and cohesive enough was turned, dried, and spawned, just as we have described for the bricks. We should judge, from the size of the cakes, that many makers for the public follow this plan. Where the conveniences exist the first processes are soon got over. We once made a lot on a hard smooth road, and the weather being fine, we had it nicely dried with but little trouble. However done the same minutiae must be attended to to secure a first-rate article. Just as in Mushroom-beds, too much heat will generally make wreck of the whole. When once the spawn begins to run it makes pretty well enough of warmth for itself.—R. F.



## ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 5TH.

**FLORAL COMMITTEE.**—The principal feature of this meeting was the numerous seedling Dahlias, some of which were very good, but not one could be said to be new either in colour or form. The time has arrived when little more can be expected from this flower. The criticisms on the perfection of a Dahlia are quite mysterious, and it requires a most practised eye to form a correct judgment of its merits; and sometimes the fastidious nicety of distinction amounts to an absurdity. This flower still has its devoted admirers, and appears to have many patrons.

Messrs. Downie, Laird, & Laing exhibited a fine collection of Solanums and other fine-foliaged plants. The Solanums formed the chief portion, and were much admired for the various forms of their prickly foliage and stems. A special certificate was awarded to the collection. Mr. J. Coombs, Hackney, sent two seedling variegated Pelargoniums with tricolor foliage—Prism and Eclair. The plants were too young to justify any decision on their merits, and must be seen again. Mr. Bull exhibited a very fine double white-corollaed Fuchsia with bright pink sepals. This is by far the best double white variety we have seen. It is very free-flowering, with large flowers. A first-class certificate was awarded it. Messrs. Lee sent a fine specimen of a Stanhopea grandiflora, a very handsome Orchid. Mr. Shaw, Manchester, sent three seedling Gladioli with faded spikes; they appeared to be of the striped or mottled section. M. Wailly sent a collection of Tropaeolum flowers, many of them pretty, but nothing distinct or new. Mr. J. H. Lock, Herne, Kent, exhibited cut flowers of three seedling Hollyhocks—Annie Mande, a pure white; Thomas Rammell, dark red—the flowers were not near the standard of the present day, being deficient in form and outline. A single flower unnamed attracted attention as a novel colour in Hollyhocks—a very delicate fawn colour. It was remarked that there is no Hollyhock of this peculiar tint of colour. Had it but the necessary qualifications of form and substance, which, like the others, it so manifestly lacked, it would be a valuable flower. Mr. Leach, Clapham Park, sent two single flowers of Lilium from Japan. Mr. Wills, Oulton Park, sent another of his hybrid Verbenas; also Pelargoniums Beauty of Oulton and Gaiety, which have been previously noticed in this Journal; and a variegated form of Hydrangea, marginata, which it was requested should be seen again. Mr. Macintosh, Hammersmith, sent a dwarf seedling Antirrhinum of no use. Mr. Veitch sent Cattleya exoniensis, one of Mr. Dominy's good hybrids. A special certificate was awarded to it as a fine specimen, it having received a first-class one at a previous meeting. Mr. Perry again sent several seedling Verbenas—Champion, a dark maroon, bright eye, large truss and pips, which was awarded a first-class certificate; the others had been exhibited before. Mr. Eckford, High-worth, also exhibited seedling Verbenas John Keynes, a bright orange scarlet with conspicuous lemon eye—first-class certificate; Mr. Gladstone, a bright ruby with distinct eye—second-class; Gladiator, Mr. W. Ellice, Isaac Eckford, and Celestial.

Among the seedling Dahlias Mr. Burgess, of Chelsea, exhibited Mrs. Lind, Mrs. Burgess, and Kate. Mr. Pope, Chelsea, exhibited Fanny Dahlia Fanny Sturt, dull red heavily tipped with white, fine form, medium flower—first-class certificate; and Mr. J. Pope. Messrs. Wood & Ingram sent Dahlia Lord Sandwich. Mr. Bragg, Slough, sent Dahlias Goldbeater; Commander, a fawn colour, which was awarded a second-class certificate; Fair Lady, Commodore, Hon. Mrs. Gerald Wellesley, Belle, and Rival Model. Mr. Turner sent Dahlias Arthur, Amber Witch, Artemas Ward, L'Africaine, Princess Dagmar, Princess Alice, Fair Imogene, Royal Robe, Master of Arts, orange tipped with purple—second-class certificate; and Blushing Fifteen, a rosy lilac—second-class certificate. Mr. Rawlings, Romford, sent Dahlias Majestic, Firefly, Queen of Autumn, and Aristides. Mr. C. J. Perry sent Dahlias John Powell, Miss Powell, Ne Plus Ultra, and Startler. Mr. Church, Binfield, Berks, sent Dahlias Gladiator and Mr. Savory. Mr. Legge, Edmonton, sent Dahlias Golden Empire, Lilac Perfection, Mr. Gibson, Mr. Braham, Prince of the World, and Eclipse. Mr. J. Keynes sent Dahlias Ultimatum, delicate blush, tipped, a very pretty flower—first-class certificate; President Lincoln, George White, Lady of the Lake, Ellen Potter, Jeannie Deans, Sir Greville Smythe, and Annie Austin. Mr. Allen, Shacklewell, sent Dahlias Mr. Tyson, and Crown Jewel, and Mr. Eckford, Dahlia Lady Mary Wilde, a delicate light white and lilac flower—second-class certificate.

**FRUIT COMMITTEE.**—G. F. Wilson, Esq., F.R.S., in the chair. On this occasion a dish of Walbourn Admirable Peaches was exhibited by Henry Whiting, Esq., of Battersea Rise; these specimens were very good, and well flavoured. Some fine large fruit of the Stanwick Nectarine came from the Chairman, and were quite free from cracking, to which that variety is so liable; they were, however, grown under glass. Royal George Peaches grown on a standard were exhibited by Messrs. J. & C. Lee, of Hammersmith, but they were small, and rather astringent. The same may be said of Peaches, and Elrune Nectarines, also grown on standards, from Mr. Macintosh, nurseryman, Hammersmith. A seedling Peach was exhibited by Jonathan Clarke, Esq., The Mall, Chiswick, gathered from a standard ten or twelve years old, and which bears well every year. The fruit was very large, roundish, tinged with red next the sun; flesh pale, slightly rayed with red at the stone, from which it parts; it was a little astringent, but from its

very large size and ripening on a standard it was recommended to be tried against a wall. The tree has leaves with reniform glands. Another seedling, also grown on a standard, was exhibited by the same gentleman. It was below the medium size, well coloured, but not equal in flavour to sorts in cultivation. A Black Jamaica Pine Apple was sent by Mr. Yates, Manchester, on account of its being affected with decay in spots, but where sound the flavour was excellent. The fruit was submitted to the Rev. Mr. Berkeley, who decided that the diseased spots were caused by the common vinegar mould. Green-fleshed Melons came from Mr. Wills, gardener to Sir Philip Egerton, Bart., Oulton Park; and from Mr. Hudson, gardener to Miss Strut, Chacecliffe, Derby, but neither of these Melons possessed merit. The Golden Castle Egg Plum was exhibited by Messrs. Lee; very good specimens, but scarcely equal in flavour to the Jefferson. The Transparent Gage Plum, however, exhibited by the Chairman was very excellent. It is rather larger than the Green Gage, somewhat later, exceedingly rich, and a most valuable delicious fruit; this variety cannot be too highly recommended. A collection of Figs came from the garden of the Society, and six sorts of Grapes. Among the latter were specimens of the Chasselas Musque de Nantes, with which the Cranford Muscat was compared, and the two were found very similar in appearance and equally rich.

## THE EDINBURGH INTERNATIONAL FRUIT AND FLOWER SHOW.—SEPTEMBER 6TH.

SCOTLAND may well be proud of the great Show held at Edinburgh on Wednesday last; for not only was it great in its extent and in the variety of the products of horticultural skill which were gathered together, but great, too, in the extraordinary excellence by which these productions were characterised. As an eminent English horticulturist most justly remarked, the Show was distinguished not merely by the presence of the good, but also by the absence of the bad. Such a success must have been, and was, most gratifying to all concerned in the Exhibition, to the promoters, to the exhibitors from both sides of the border, and to those who came far and wide to witness the display. In all competitions there must be losers as well as winners, but in this both parties covered themselves with credit; for the winners obtained no cheaply-purchased victory, and the losers departed with the honours of war and a firm determination to renew the fight.

Before proceeding to detail a few words as to the origin of this Show, which was held under the auspices of the Edinburgh Horticultural Society, may not be out of place. The propriety of holding an international horticultural exhibition at Edinburgh was first mooted, about twelve months ago, by Mr. William Thomson, of Dalkeith, and Mr. Young, the Secretary; and the idea having been warmly taken up, the principal horticulturists at home and abroad were communicated with. The result was, that promises of support came freely from all quarters, as well as subscriptions to the amount of £500, setting the Committee at ease on the score of funds. A schedule of a most comprehensive character was framed, containing upwards of a hundred classes, in which liberal prizes were offered to competitors, both British and foreign; and how well this invitation was responded to by gardeners from all parts of the kingdom it is now our pleasing duty to relate.

The Show was held in the spacious Music Hall and Assembly Rooms in George Street, and the Committee having been at work all the preceding night in arranging the multifarious subjects which were brought for exhibition, the tables were ready by six o'clock in the morning for the Judges to proceed to make their awards, and by thus starting early the adjudications were completed and the prizes affixed before the public were admitted. From 9 till 11 A.M. gardeners were allowed the privilege of inspecting the Exhibition for a small admission fee, and afterwards the visitors, who thronged in, were so numerous as to render movement a matter of no little difficulty; and it was evident that if the Society's future shows be as extensive, as attractive, and as numerous attended as this one was, a greatly increased space must be secured to permit of the subjects exhibited being seen with comfort. This was the only drawback to the Show, for in every respect it was admirably conducted, Secretaries, Treasurer, and Committee-men being indefatigable in their labours, and nothing could exceed the attention, the courtesy, and the kindness which they brought to the performance of their arduous tasks. And now to the details of the Exhibition. Fruit was the great feature, and with that, therefore, we shall begin.

## FRUIT.

The display of this was magnificent, fully occupying the whole of the vast Assembly Room; and although the lines of tabling were placed as closely together as it was possible to do without entirely obstructing the circulation of the visitors, there was not an inch of space to spare, indeed some of the fruit had to be set up in an adjoining room. So much of the quantity, now of the quality. Never has it fallen to our lot to see hothouse fruit, and especially Grapes, in greater perfection than the bulk of that exhibited on this occasion. The collections of twenty sorts of fruit were unusually good, especially those from Mr. W. Thomson, gardener to the Duke of Buccleuch, Dalkeith, and Mr. D. Thomson, of Archerfield, and which were pretty evenly balanced in point of merit. Mr. W. Thomson had two excellent Smooth-leaved Cayenne Pines, and a handsome Queen, of the extraordinary weight of 64 lbs.; splendid bunches of Black Hamburgh,



Lady Downe's, Calabrian Raisin, and Muscat Grapes; two well-grown Melons, Crawford's Early and Bellegarde Peaches, Elrage Nectarines, Moorpark Apricots, Jefferson and Victoria Plums, Figs, Morello Cherries, Red and White Currants, Kerry Pippin Apples, and Jargonelle Pears. Mr. D. Thomson had three Smooth Cayenne Pines, two Melons, very fine bunches of Lady Downe's and Black Hamburg Grapes, beautiful Muscats and Calabrian Raisin; very fine Noblesse, Bellegarde and Barrington Peaches, Moorpark Apricots, Kirke's and Victoria Plums, Figs, and Jargonelle Pears, &c. Mr. Tillery, gardener to the Duke of Portland, Welbeck, had also an excellent collection, consisting of Queen and Prickly Cayenne Pines, Normandy Park Green-fleshed and Scarlet Gem Melons, very good Golden Hamburg, Muscat, Black Hamburg, and Gromier du Cantal Grapes; Grosso Mignonne Peaches; three fine dishes of Nectarines; Green Gage, fine Goliath and Magnum Bonum Plums, Moorpark Apricots, Morello Cherries, Hawthorned Apples, and La Pannache Pears. Mr. Rose, gardener to the Duke of Roxburgh, Floors Castle, likewise contributed a very meritorious collection.

Awards.—For the best collection of twenty, not more than four sorts of Grapes, two sorts of Pines, and two sorts of Melons: first, Mr. William Thomson; second, Mr. D. Thomson; third, Mr. W. Tillery; fourth, Mr. Rose.

In collections of sixteen sorts, Mr. Melville, gardener to the Earl of Roseberry, Dalmeny Park, had one neatly set up on moss, a star of Grapes forming the centre. It consisted of Canon Hall, Chavoush, Black Hamburg, and Lady Downe's Grapes; Improved Bechwood Melon, Figs, Royal George Peaches, Moorpark Apricots, two kinds of Plums, Williams' Bon Chrétien and Jargonelle Pears, Devonshire Quarrenden Apples, Gooseberries, White Currants, and Morello Cherries. Good collections in the same class came from Mr. Matheson, Tulliallan Castle; Mr. Cook, Holyon Hall, Newcastle; Mr. Lees, gardener to the Earl of Haddington, Tynninghame; and Mr. Temple, Balbirnie. That from Mr. Lees contained Oranges and Guavas.

Awards.—For the best collection of sixteen, exclusive of Pines: first, Mr. Melville, Dalmeny Park; second, Mr. D. Matheson; third, Mr. Cook.

In addition to the above, a prize was offered for the best six varieties of home-grown fruit, consisting of two Pines, two Melons (one Green-fleshed and one Scarlet-fleshed), four bunches of Grapes, twelve Peaches, twelve Nectarines, and twelve any other fruit. This was taken by Mr. D. Thomson, with very fine Smooth Cayenne Pines, Scarlet Gem, and a hybrid Melon, a splendid bunch of the Tynninghame Muscat of Alexandria, Black Hamburg, like jet, a splendid bunch of Calabrian Raisin, Lady Downe's, very fine; fine Peaches, Nectarines, and Moorpark Apricots.

Fruiters were likewise invited to compete, and in their case foreign fruit was admitted. The result was two very extensive and meritorious collections from Messrs. Carstairs, of 121, George Street, and Mr. Brown, of Hanover Street, to whom equal first prizes were awarded. From the former came six Pines, twelve kinds of Grapes, fifty of Apples, forty of Pears, and numerous Plums, Peaches, Figs, also Currants of kinds, Raspberries, Blackberries, Oranges, Bananas, and various other fruits. Mr. Brown's collection comprised many fine examples of Apples, both of home and foreign growth, and a portion of them were arranged so as to show the growth attained in different parts of Scotland. There were besides several fine bunches of Grapes, Melons, Plums of various kinds, Peaches, Nectarines, Apricots, Figs, Pears from the continent, Nuts in variety, &c. A Mammoth Gourd, weighing 112 lbs., was also shown by Mr. Brown.

PINES were not numerous. Two handsome Queens came from Mr. Peacock, gardener to R. Scott, Esq., Castle, Dykes Damfries; two excellent Smooth Cayennes from Mr. Thomson, Archerfield; fine Montserrat from Mr. Fowler, gardener to the Earl of Harewood, Harewood House; Cockcomb-crowned Providence from Mr. Gavin, Donibristle. Good fruit of a kind called Bennet Seedling, grown in a 10-inch pot, came from Mr. Henderson, gardener to Lord Manners, Thoresby Park. This received an extra prize. Mr. D. Thomson exhibited in addition, three plants of Smooth Cayenne with very large fruit, which, though not ripe, had an imposing effect. These were awarded, and well deserved, an extra prize.

Awards.—Two best Queens: first, Mr. Peacock; second, Mr. J. Oswald, gardener, Murthly Castle. Two Smooth Cayennes: Mr. D. Thomson, Archerfield. Two of any other sort: first, Mr. Fowler, Harewood House, Yorkshire; second, Mr. John Gavin; third, Mr. John Oswald. Extra prizes, Mr. D. Thomson and Mr. Henderson.

GRAPES constituted the grand feature of the Show, and such an assemblage of magnificent bunches had certainly never before been seen. The whole, almost without an exception, were good, but those exhibited by Mr. Fowler, of Castle Kennedy, Mr. D. Thomson, and Mr. Meredith, were most extraordinary productions as regards size and perfection of ripening. These alone were worth a journey of four hundred miles to see. In eight varieties Mr. Fowler, gardener to the Earl of Stair, Castle Kennedy, was first with splendid bunches of Muscat of Alexandria; Trebbiano, weighing 12 lbs. 9½ ozs.; White Nice, 9 lbs. 6½ ozs.; Black Barbarossa, very fine as regards size; Black Prince, Lady Downe's, with very large berries; Muscat Hamburg and Black Gibraltar, very good. Altogether, this was a most extraordinary collection, such as is rarely witnessed anywhere, and fine though the others were, this stood unquestionably in the first place. Next came Mr. Meredith, of Garston, Liverpool, with an admirably

finished collection, consisting of jet-black Hamburgs; Muscat of Alexandria; Chaptal, 1 foot long and 9 inches across the shoulders; Black Prince, Muscat Hamburg, fine; Black Alicante, with a beautiful dense bloom; Child of Hale, a very large-bunched kind; and Black Barbarossa, very regular and finely coloured. Messrs. Lane and Son, Great Berkhamstead, contributed a good collection, for which a third prize was awarded, and Mr. Rose, Floors Castle, was fourth. In the class for the best four sorts Mr. W. Thomson was first with excellent Black Hamburgs, Lady Downe's, Muscat of Alexandria, and White Tokay; Mr. Cude, Glenearse, Perth, was second; Mr. Millar, Cally Gardens, third; and Mr. R. Greenfield, Pallinburn Gardens, Coldstream, fourth. For Black Hamburg, two bunches, Mr. Meredith occupied his accustomed place of first with two beautiful bunches, weighing together 9 lbs. 10 ozs., the berries large, regular, and beautifully coloured; Mr. Richards, Grimston Park, Tadcaster, was second; and Mr. Fowler, third; and several large bunches, but not up to the mark as regards colour, came from some others. For Muscat of Alexandria, two bunches, Mr. Fowler was first with splendid bunches beautifully ripened; and the same may be said of those sent by Mr. Thomson, Archerfield, who was second. Mr. Anderson, of Torwoodlee, Galashiels, was third, with fine bunches, but not so well ripened. Of Red or Grizzly Frontignan, good bunches came from Mr. Meredith, and Mr. Cowie, Calder House, Mid Calder; those from the former being by far the better. Muscat Hamburg, from Mr. Fowler, though a little rubbed, was fine; and good bunches from Messrs. Lane and Mr. Johnston, Terregles, were second and third. Of White Tokay, the best ripened came from Mr. Matheson, Tulliallan Castle; and a compact bunch, but too green, from Mr. Phipps, Ingestrie Hall, was second. In Black Hamburg, single bunches, Mr. Meredith was first with a large and handsome bunch, beautifully coloured; Mr. Richards was second; and good bunches came from other competitors. In the corresponding class for Muscats, Mr. Fowler and Mr. D. Thomson held the same relative positions which they had gained in the class for two bunches, the exhibitions in both cases being very fine and well finished. An extra prize was awarded to Mr. A. Anderson, Torwoodlee, for a large bunch, but not evenly ripened. The whole of this class was good. For Black Alicante, a very large and fine bunch, weighing 4½ lbs., from Mr. Greenshields, gardener to the Marquis of Ailsa, was first; and a beautiful and very regular bunch from Mr. Melville, Glenlee Gardens, New Galloway, was second; an extra prize was given to Mr. Meiklejohn, Dalkeith, for a fine bunch, and an excellent one also came from Mr. Meredith. The class for the heaviest bunch of Black Grapes was quite a remarkable one. Mr. Greenshields was first with Black Barbarossa, weighing 10 lbs. 15 ozs., and measuring nearly 20 inches across and little less in length. Then came Mr. Fowler with a magnificent bunch of the same variety; and Mr. Meredith had a beautiful bunch of Black Hamburg, weighing 4 lbs. 12 ozs., and which everybody regretted should have been pitted against the larger and coarser Barbarossa. The heaviest White Grape was White Nice, of which an enormous bunch, little less than 2 feet long, and weighing 11 lbs., was shown by Mr. Fowler. This variety, however, is stated to have been grown to the weight of 18 lbs. Child of Hale, another gigantic kind, from Mr. Meredith, weighing 8 lbs. 10 ozs., was second. For the finest flavoured White Grape there were fourteen competitors, and equal first prizes were awarded to Mr. Thomson, Dalkeith, and Mr. A. Anderson, Torwoodlee, the former having Duchess of Buccleuch, a richly-flavoured Grape of his own raising, and the latter Muscat of Alexandria. The best flavoured Black grape was Muscat Hamburg, of which Mr. Fowler exhibited a fine bunch, and Mr. Tillery was second with Black Frontignan. For the Black Grape with the finest bloom, the first prize was awarded to Mr. Meiklejohn, Dalkeith, for Black Alicante, the second going to Mr. Wilshe, Cavers Cave, for Black Hamburg.

For collections of Black Hamburg varieties, Mr. Meredith was first with a collection in which the following names occurred—namely, old Black Hamburg, Dutch, Wilmots', Victoria, Pope's, Mill Hill, Champion, and Richmond Villa. Messrs. Lane were awarded the second prize for a collection in which the names were—Frankenthal, Pope's, Dutch, Mill Hill, and Esperione. Mr. Turner, gardener to Mark Spott, Esq., Riddell, Selkirk, was third. In a corresponding class for Muscats, Mr. Meredith had a first prize for Muscat of Alexandria, Escholate, Troveron, Early Summer Frontignan, Charlesworth Tokay, Canon Hall, Bowood, and Ciotat. For the best bunch of any kind not named in the schedule, equal first prizes were taken by Mr. Fowler and Messrs. Lane, the former having a splendid compact bunch of Lady Downe's, with berries almost as large as those of a well-grown Mill Hill Hamburg, and the latter good Buckland Sweetwater. Black Prince, from Mr. Greenshields, was second. Good bunches of Golden Hamburg and Barbarossa were also shown, as well as Royal Vineyard, by Mr. Williams, of Holloway. A seedling White Grape, named Syrian Muscat, stated to be a cross between the Syrian and Canon Hall, and to be a more certain setter, came from Mr. Melville, Dalmeny Park; also, Champion Frontignan, a seedling between Champion Hamburg and Grizzly Frontignan. This had large reddish berries. Mr. W. Thomson contributed Golden Champion Hamburg. None of the above, however, were adjudicated upon.

MELONS.—About two dozen were shown. The best Green-fleshed was a well-netted fruit of Veitch's Perfection, from Mr. T. Weir; second, Golden Perfection, from Mr. Ross. In Scarlet-fleshed, Gem, from Mr. T. Shannon, Slatford, was first.



**Awards.**—Greenfleshed: first, Mr. T. Weir, Kerse House; second, Mr. C. Ross, gardener to C. Eyre, Esq., Welford Park, Newbry, Berks; third, Mr. J. Johnston, Terregles. Scarlet-fleshed: first, Mr. T. Sharman, Redhall, Slateford; second, Mr. Johnston, Balgreen; third, Mr. Cooke, Holey Hall.

**PEACHES AND NECTARINES.**—Of the former, Mr. Peacock had excellent examples of Walburton Admirable and Barrington; and Mr. Henderson, of Royal George; Bellegarde, Noblesse, and Violette Hative, were also well represented. Nectarines were not numerous, nor were they remarkable for quality. Elruge and Violette Hative were the best.

**Awards.**—Twelve Peaches, two sorts: first, Mr. James Peacock, Castledyke; second, Mr. Wemyss, Springwood Park; third, Mr. D. Thomson. For six: first, Mr. Henderson, gardener, Castle Wemyss, Greenock; second, Mr. Cooke, Holey Hall; third, Mr. Jas. Johnston, Terregles. Nectarines, two sorts: first, Mr. John Oswald, Murthly Castle; second, Mr. James Peacock. For six: first, Mr. T. Millar, Cally House; second, Mr. Temple, Balbarrie Gardens, Markinch; third, Mr. J. Gordon, Niddrie House.

**APRICOTS** chiefly consisted of the Moorpark, of which some good samples were shown.

**Awards.**—Two sorts: first, Mr. Walter Allen, Ratho House; second, Mr. Cooke, Holey Hall; third, Mr. David Glog, Dryland House.

**PLUMS** consisted of good examples of Green Gage, Jefferson, Imperatrice, Kirke's, Washington, Magnum Bonum, Victoria, and Pond's Seedling.

**Awards.**—Four sorts: first, Mr. William McVillie, Dalmeny Park; second, Mr. T. Millar, Cally House, Gatehouse; third, Mr. R. Ramsay, Mount Stuart, Rothesay.

**VINES IN POTS.**—A beautiful example of Black Alicante, from Messrs. Lane, loaded with fine bunches, was first in the Black class; Mr. Dickson, Whitehill, being second with Barbarossa. In the White class Messrs. Lane were first with Golden Hamburgh, and Mr. Gordon, Niddrie House, second.

**PEARS** comprised some good dishes of Jargonelle from Mr. Combe, Mr. Harrison, and others; and of other kinds the best collection of twelve came from Mr. Scrymgeour, gardener to R. Palmer, Esq., Holme Park, Reading. These, unlike most of the other Pears, were finely coloured, and consisted of Flemish Beauty, Williams' Bon Chrétien, Louise Bonne of Jersey, Duchesse d'Angoulême, Beurré Diel, Marie Louise, Beurré de Rance, King Edward's, Van Mons Léon le Clerc, Beurré Bose, Gansel's Bergamot, and Vicar of Winkfield. The second-prize lot included several of the above, Beurré d'Amanlis, Grosse Calebasse, Knight's Monarch, Brown Beurré, and Winter Crassane. Josephine de Malines, Beurré Sterckmans, and Haeon's Incomparable were among those from Mr. Cramb.

**Awards.**—Six Jargonelle: first, Mr. J. Combe, gardener, Glencarse, Perth; second, Mr. J. Harrison, nurseryman, Darlington; third, Mr. W. Reid, New Hailes. For six, two sorts, three of each (exclusive of Jargonelle): first, Mr. Scrymgeour; second, Mr. J. Purves, Hermitage Hill, Leith. For twelve, three of each, ripe or unripe: first, Mr. Scrymgeour; second, Mr. J. Stewart, Nuneham Park, Oxford; third, Mr. Cramb, the Gardens, Tortworth Court, Gloucestershire.

**APPLES.**—In Dessert kinds the chief prizes were taken by Mr. Bradfield, Balingey, Norfolk. His collection of twelve included Blenheim Orange, Ribston Pippin, Golden Nonpareil, Margil, Russet Nonpareil, Golden Russet, Court of Wick, Pearn's Pippin, and Golden Lustre. Mr. Cramb contributed fine specimens of Ribston Pippin, Cox's Orange, Golden Russet, together with Braddick's Nonpareil, Sturmer Pippin, Pearson's Plate, Gooseberry Apple, Cockle Pippin, &c.

In the class for Kitchen Apples, twelve sorts, the best collections were all of English growth. Mr. Cramb, who was first, had good examples of Alfriston, Alexander, Dumelow's Seedling, Gloria Mandi, Hanwell Souring, Mère de Monage, Waltham Abbey Seedling, Brabant Bellefleur, Hambleton Deux Ans, and Tower of Glammis. From Mr. Scrymgeour came, among others, Alexander, highly coloured; Blenheim Orange, Kentish Filbasket, and Munier's Dumpling. In other collections were good fruit of Manks Codlin, Northern Greening, Norfolk Beefing, Catshead, Striped Beefing, Rymer, Bess Pool, and some excellent examples of New Hawthornden.

**Awards.**—Dessert, twelve sorts, three of each, ripe or unripe: first, Mr. Bradfield, Balingey, Norfolk; second, Mr. Cramb, Tortworth Court; third, Mr. Wemyss, Springwood Park. For six, fit for table: first, Mr. Bradfield; second, Mr. Scrymgeour; third, Mr. D. Bain, St. Neot's. Kitchen, twelve sorts, three of each, ripe or unripe: first, Mr. Cramb, Tortworth Court; second, Mr. Scrymgeour, Holme Park; third, Mr. J. Mitchell, Eserick Park, Yorkshire; Extra, Mr. Bradfield, Balingey, Lynn; and Mr. Philips, Ingestrie Hall.

**MISCELLANEOUS.**—Some good Warrington Gooseberries and excellent Red Currants were shown; as well as home-grown Oranges by Mr. Wilson, gardener to Mrs. Erskine, Colross. The only collection of foreign fruit came from Mr. Knight, gardener, Château de Portchartrain (Seine et Oise), France, in which were Api Gros, Api Rose, Api Noir and Remette du Canada Apples; Beurré Diel, Duchesse d'Angoulême, Beurré de Rance, Louise Bonne, Catillae, and some other Pears; Black Hamburgh, Tynninghame Muscat of Alexandria, and Chasselas Rose Grapes; also Black Monnikka, a kind which is for the most part seedless. These, however, were unfortunately not in good condition, in consequence of their long journey.

**Awards.**—Gooseberries: first, Mr. J. Geddes, Bellwood, Perthshire; second, Mr. George Smith, Clermiston, Corstorphine; third, Mr. Craw, Jedburgh. Red Currants: first, Mr. James McDonald, gardener, Darn Hall, Peeblesshire; second, Mr. Geddes, Bellwood; third, Mr. R. Ramsey, Mount Stuart, Rothesay. Extra prizes:—for Devico of Fruits: Mr. John Fraser, Belmont. For a seedling Pine: Mr. A. Henderson, Thorsby Park. For collection of Pears: Mr. J. Stewart. For an Antigua Queen Pine: Mr. Foulis, Fordel. For Canon Hall, Muscat, and Black Hamburgh Grapes: Mr. J. Oswald, Murthly Castle. For Royal Vineyard Grapes: Mr. B. S. Williams, Holloway. For Oranges: Mrs. S. Erskine.

#### VEGETABLES.

Among these were some excellent examples of cultivation. The collections comprised good Onions, Leeks, Carrots, Mushrooms, Turnips, Kidney Beans, Peas, Parsnips, Potatoes, Cauliflower, Savoy, and Artichokes. Mr. Stewart, gardener to the Rev. H. Vernon Harcourt, Nuneham, exhibited a fine sample of a large Onion, shortly to be sent out by Messrs. Cutbush, of Highgate. The variety is stated to be mild-flavoured and very productive, a piece of ground 20 yards by 18 wide having yielded 32 cwt. 4 lbs. Of Henry's Prize Leek, fine examples were shown by Mr. Henry, Dunse, the blanched part in some of them being about 9 inches round, and the leaves as much across at their base.

**Awards.**—Mushrooms: Prize, Mr. Duncan, Muirhouse, Falkirk. Cucumbers: first, Mr. Johnston, Terregles; second, Mr. Shannon, Redhall. Cauliflowers: first, Mr. Ramsay, Penicik; second, Mr. Duncan. Beet: first, Mr. Watts, Rosefield Cottage, Portobello; second, Mr. Alexander Kerr, Saughton Hall. Leeks: first, Mr. Shannon; second, Mr. Duncan. Onions: first, Mr. Stewart, Nuneham Park, Oxford; second, Mr. Scrymgeour, Holme Park, Reading; third, Mr. Logan, Bowers Hall, Perth. Salads: Prize, Mr. Reid, gardener, New Hailes. Collection of vegetables, twelve sorts: first, Mr. Shannon; second, Mr. Matheson, Tulliallan; extra, Mr. King, Brimfield House; and Mr. A. Thomson, gardener, Woodburn.

#### PLANTS, &c.

This portion of the exhibition was principally confined to the Music Hall, where a fine collection of Coniferous plants and others remarkable for the beauty of their foliage was arranged in the orchestra, and being lighted up with Gladioli and some other flowering plants an excellent effect was produced. These were contributed by Messrs. Lawson & Son and Dickson & Son, of Edinburgh; Messrs. Downie and Co. likewise contributing Geraniums, Begonias, &c., for the decoration of the entrance hall.

Among stove and greenhouse plants from Mr. Lees, of Tynninghame, were *Renanthera coccinea* with fine spikes of bloom, and from the mode in which they were trained not having that straggling appearance which this showy plant usually exhibits; a fine *Phalenopsis grandiflora*, *Oncidium luridum* guttatum, with five long spikes covered with flowers, several *Statice* in excellent bloom, and *Erica Aitonii* Turnbulli in good bloom. Mr. Lees was awarded the first prize, the second going to Mr. Neil Black, gardener to the Earl of Dalhousie, Dalhousie Castle. Of Cape Heaths the only entry was that from Mr. W. Thomson, Dalkeith; it consisted of *retorta* major, *Antennaria*, and *Marnockiana* in fine bloom. In eight fine-foliated plants Mr. Mitchell, gardener to the Duke of Hamilton, Hamilton Palace, was first with a remarkably fine specimen of Pitcher-plant, *Nepenthes Rafflesiana*, good plants of *Croton variegatum*, *Cordyline indivisa*, *Dasyliro glaucum*, and *Ananassa sativa variegata*, and a noble *Alcaesia zebrina*. From Mr. Thomson, Dalkeith, and Mr. Lees, who were equal second, came fine examples of *Pandanus elegantissimus*, *Alcaesia metallica*, and a Sugar Cane, together with a splendid pan of *Anacochilus* with *Lycopods* hanging over the edge. Other plants consisted of creditable examples of *Caladiums*, *Alcaesia macrorhiza variegata*, *Begonia Marshalli*, *Cyanophyllum*, *Dracanas*, and *Sansevieria javanica*. In tree Ferns Mr. Thomson was first with a fine *Dicksonia antarctica*, Mr. Lees second with *Alsophila australis*. In eight Ferns Mr. Mitchell, gardener to the Duke of Hamilton, had good specimens of *Cibotium Schiedeii*, *Pteris cretica albo-lineata*, *Asplenium nidus*. Good examples of the above, *Pteris tricolor*, *Adiantum formosum*, *Gymnogramma lanceolata*, *Adiantum cucullatum*, and *Trichomanes radicans* came from other exhibitors. Mr. Mitchell was first, Mr. J. Henderson, gardener to John Christie, Esq., Millbank, second, and Mr. Lees had an extra prize.

Of *Fuchsias*, there were well-bloomed plants of *Souvenir de Chiswick*, *Conqueror*, *Rose of Castille*, and *Venus de Medici*; some good *Cockscombs*, *Achimenes*, and *Phloxes* were also shown, and *Asters* were fairly represented both in the tasselled and quilled classes. Several boxes of cut *Roses* were also exhibited, but they were not remarkable for quality. Of *Zonale Geraniums*, however, there were some good specimens of *Madame Vanher*, *François Desbois*, *Rose Rendatler*, *Paul l'Abbé*. Mrs. Pollock, Cloth of Gold, Flower of Spring, and Queen of Queens, were also shown in tolerable perfection.

**Awards.**—Two *Fuchsias*: first, Mr. John Kennedy, Fordel; second, Mr. Clerk, gardener to Sir John Cox, Kinnellan. *Fuchsias*, in eight-inch pots: first, Mr. John Kemp; second, Mr. John Gilchrist, gardener, Duddingston. *Cockscombs*: first, Mr. R. B. Annandale, Seaton House, Arbroath; second, Mr. W. Watt, Rosefield Cottage, Portobello. *Achimenes*: Mr. Thomson, Dalkeith. *Zonale*, or *Bedding Geraniums*:



first, Mr. James Gordon, gardener, Niddrie; second, Mr. John King, Bruntsfield House. Variegated Geraniums: first, Mr. James Henderson, Millbank; second, Mr. T. McGowan, gardener to Mr. Gibson, Woolmet. Twelve cut Roses: first, Mr. George Wemyss, Springwood Park, Kelso; second, Mr. James Henderson, Millbank, Gorebridge. Extra: Mr. A. Boyant, Balcarras Cottage; and Mr. Robert Starrie, Kinnet, Bo'ness. Twelve quilled Asters: first, Mr. John Taylor, Middlefield Cottage, Inveresk; second, Mr. Duncan Kerr, Glencarse, Roslin; third, Mr. Jones, Bangholm Bower, Trinity. Twelve Chrysanthemum-flowered Asters: first, Mr. McCabe, Holeyon Hall, Newcastle; second, Mr. William Reid, New Hailes, Musselburgh. Extra: Mr. Duncan Kerr, Glencarse. Six Phloxes: first, William Blackwood, Esq., Minden, Peebles; second, Mr. George Smith, Clermiston, Corstorphine; extra, Mr. John Hamilton, Minto.

Of Gladioli, many beautiful stands were shown, forming one of the most attractive features of the floral display. Those from Messrs. Downie, Laird & Laing, Messrs. Dickson & Son, Newtonards, Ireland. Mr. Harrison, Darlington, and Mr. Marshall, were particularly worthy of remark. Among the finest in the different stands were John Waterer, Napoleon III., Penelope, Lord Raglan, Princess Clothilde, Reino Victoria, Madame Vilmorin, Edulín, Linné, Raphael, La Quintinie, Mazepa, and Mathilde de Landeveisin.

Awards.—For fifty: equal first, Messrs. Downie, Laird, & Laing; and Messrs. A. Dickson & Son, Newtonards; second, Mr. Harrison, Darlington. For twelve: first, Mr. Marshall, Sand House, Northumberland; second, Mr. John Thompson, Preston Tower, Chathill; third, Mr. Henderson, Millbank; extra, Mr. R. Grant, Grange Cemetery.

Hollyhocks, shown in spikes and in cut blooms, were remarkably good. Messrs. Downie & Co., sent eleven very fine spikes, including Earl of Breadalbane, Charles Eyre, Mrs. Downie, Lady Roxbury, Janine d'Or, Orange Perfection, Hon. Mrs. Cheape, Scraph, William Young, and John Cowan. Mr. Thompson, Preston Tower, had the finest spikes in the Amateurs' class. Lord Roxbury, Hon. Mrs. Cheape, Lord Clifden, and Mrs. McKenzie were particularly good. In other stands, Glory, Lord Loughborough, Countess of Craveu, Mrs. G. Sharpe, and George Keith were fine flowers. A fine rosy crimson seedling, named John Downie, from Mr. Allan, Belchester, received a certificate.

Awards.—Eleven spikes of Hollyhocks: first, Messrs. Downie, Laird, and Laing; second, Messrs. Carstairs & Sons. Nine spikes: first, Mr. John Thompson, Preston Tower, Chathill; second, Mr. Daniel Bell, Beechwood; third, Mr. James Vair, Gogar Bank; extra, Mr. James Allan, Belchester, Coldstream. Five spikes: first, Mr. Walter Allan, Ratho House; second, Mr. Thomas Shannon, Redhall, Slateford. Twelve cut blooms: first, Mr. J. Thompson; second, Mr. James Allan, Belchester; Mr. McKellar, Kirkland Lodge.

Dahlias were magnificent, finer blooms have not been anywhere seen than those shown in the majority of the stands, and particularly in those of Messrs. Downie, Laird, & Laing, in the class for twenty-four. These were Criterion, Anna Keynes, Harry, Alexandra, Baron Taunton, Willie Austin, Queen of Primroses, Favorite, Miss Henshaw, Lord Derby, Leah, Excelsior, Leopold, Delicata, Ne Plus Ultra, Miss Roberts, Imperial, Garibaldi, Golden Admiration, Charlotte Dorling, Golden Gem, Scarlet Gem, Stella Colas, and Princess Alice. Mr. Harrison, Darlington, had Manx Queen, Criterion, Lord Derby, and several others very fine; and Messrs. Dicksons had also excellent blooms. In the Amateurs' Class for eighteen, Mr. J. Thompson had Criterion of remarkable size, also Alexandra, Norfolk Hero, Lady Lillian Paullet, Umpire, Bob Ridley, Delicata, Goldfinder, Lord Derby, Charlotte Dorling, Stella Colas, Miss Henshaw, Duchess of Northumberland, and Bellona, all of which were fine and some of them very large blooms. Mr. Vair also had very good blooms of several of the above-named kinds; and in the class for twelve blooms some very good stands were set up, in which were included blooms of most of the varieties already enumerated. In Fancies, Messrs. Downie were first, with Prospero, Queen Mab, Sam Bartlett, Norah Crema, Ebor, Mrs. Joy, Mrs. Reid, Startler (Keynes), Startler (Perry), Pauline, Reliance, and Gem. In the Amateurs' classes were also very good examples of most of the above.

Awards.—Twenty-four blooms: first, Messrs. Downie, Laird, and Laing; second, Mr. Harrison, Darlington; third, Messrs. Dickson and Sons, Newtonards. Eighteen blooms: first, Mr. John Thompson, Preston Tower; second, Mr. James Vair, Gogar Bank; third, Mr. Alex. Kerr, Saughton Hall. Twelve blooms: first, Mr. J. Mitchell, Camies Esken, Helsenburgh; second, Mr. William Vair, Duloch; third, Mr. Bryant, Balerno Cottage. Twelve Fancy (Nurserymen): first, Messrs. Downie, Laird, & Laing; second, Messrs. A. Dickson and Son, Newtonards, Ireland; third, Mr. Harrison, Darlington. Twelve Fancy (Amateurs): first, Mr. William Vair, Duloch; second, Mr. James Vair, Gogar Bank; third, Mr. A. Kerr, Saughton Hall. Six Fancy: first, Mr. James Gildewan, Crossgates, Fife; second, Mr. James McHarden, Orangefield, Belfast; third, Mr. Thomas Weir, Kerse House, Falkirk.

Miscellaneous subjects consisted of an excellent plant of *Vallota purpurea* from Mr. Currie, Salisbury Green, and the rare *Phaleuopsis Portei* from Mr. Lees, Tynninghame. This had about a score of blooms. Mr. Robson, gardener to Viscount Holmesdale, Linton Park, Staplehurst, contributed an interesting collection of cones produced this year at that place. Among them were those of *Cryptomeria japonica*; *Pinus insignis*, *densiflora*, *excelsa*; *Picea nobilis*, and *Web-*

*biaua*; *Abies morinda*; *Capressus Lawsoniana* and *Lambertiana*; *Thuopsis borealis*, and *Retinospora pisifera*, and seeds of *Araucaria imbricata*, the cone having unfortunately gone to pieces. From Messrs. Osborn, Fullam, came a collection of ornamental *Pyrus* and *Crataegus* fruit, some of which were very pretty. Beard's system of glazing, which has already been fully noticed in these pages, was also exhibited.

The Judges were—for fruit, Dr. Hogg, Mr. T. Moore, Mr. Webster, Gordon Castle; Mr. Lunt, Ardgowan; Mr. Cramb, Tortworth Court; Mr. Laing, and Mr. Carmichael, Sandringham; and for flowers, Messrs. W. Paul, W. Dean, Thompson, Preston Tower; Allan, Belchester, Coldstream; Turnbull, Bothwell Castle; Carmichael, McNab, and Henderson of Millbank.

In the evening a sumptuous and admirably-served dinner took place at the Douglas Hotel. Sir William Gibson-Craig, of Riccarton, occupied the chair, Mr. J. Campbell Swinton and Mr. W. Thomson acting as croupiers. About two hundred sat down, among whom were Messrs. W. Paul, Harry Veitch, T. Moore, J. Standish, C. Turner, R. Parker, J. W. Chapman, R. Fortune, E. S. Williams, Mackenzie (Alexandra Park), R. Glendinning, and numerous leading horticulturists from all parts of the kingdom. The usual loyal toasts having been drunk, the Chairman, in proposing "The health of the Lord Provost and Magistrates of Edinburgh," said that the Council of Edinburgh had now the honour of being presided over by a man who had done more for horticulture and arboriculture, and for the general cultivation of the country, than perhaps any man of his day in Scotland. Of course they were all aware he alluded to Mr. Lawson, the present most excellent Lord Provost. There was no man in Scotland who had done so much for the exhibition of agricultural and horticultural produce in this country, and also at the great shows in London and abroad. In all these things Mr. Lawson had always acted in the most liberal manner, regardless of outlay, and with immense expense of time, trouble, and exertion. He was known not only throughout this country, but all over England, and he might say in every part of the Continent, and he much regretted to think that from an attack of illness he was not able to be present.

Mr. C. GRAHAM LAWSON returned thanks.

The health of the Duke of Buccleuch, having been drunk,

Sir WILLIAM CRAIG said the next toast was one which might be called the toast of the evening—namely, "The Horticultural Society of Edinburgh." He had some difficulty in proposing this toast, because it appeared to him that the best commendation of the Horticultural Society was to be found in such a show as had this day taken place. That show, he was assured by friends who had seen many of the great shows of England and the Continent, was equal in regard to fruit and general excellence to anything they had ever seen in any other country in the world. Now, considering that such a show had taken place in Scotland, where they were supposed to possess a cold and wretched climate and barren soil—although he did not quite admit the description which others had given of it—it must be acknowledged to be a very remarkable one, and in the highest degree creditable to the Scottish gardeners. He did not say it in the least invidiously, and he would be the last to raise a bad feeling between the Scotch gardeners and the English, but it must be admitted in the matter of Grapes, the Grapes of Scotch gardeners had carried off the palm. It might be said that the Scotch gardeners had the advantage, being on their own ground; but on the other hand, they were entitled to say that if the English had had better Grapes and better fruit they ought to have sent them. He thought it a most extraordinary thing that in this cold and barren country, as it was called, they should have produced such fruit. He had no doubt there were English gardeners quite equal to the best they had in Scotland; but this at least he would say, that there was no school for gardeners in the world equal to the Scotch school. He believed the head-gardeners in Scotland, who were generally men of intelligence and education, took the very greatest care in the training of the young men under their charge, instructing them in gardening and botany and the kindred arts, thereby making them fit for any situation whatever in connection with horticulture in any part of the world. It was the tuition of their head-gardeners that made Scotland to be looked to by all parts of the world for men for places of trust, and he knew no other capacity in which he could always more confidently recommend his countrymen than in that of gardening. As they were under a cold climate they were obliged to put forth the more skill and science to counteract it, and they were therefore accustomed to show what could be done in the most adverse circumstances. If he could point to any man pre-eminently distinguished as a Scotch gardener, he would name Mr. Thomson, gardener to the Duke of Buccleuch; and in confirmation of what he had said as to the care in the education and tuition of the under-gardeners shown by head-gardeners in Scotland, he had great pleasure in saying that to-day a testimonial had been given to Mr. Thomson by a body of young gardeners he had trained, along with an expression of their warmest gratitude to him for the care and anxiety he had shown in their training. Of this Society, established by practical gardeners, Mr. Thomson had been one of the originators, and one of the warmest promoters, and he thought his health would fitly be coupled with the toast of prosperity to the Horticultural Society of Edinburgh. This Society was yet a very young society, but he trusted soon to



see it amalgamated with the much older society, the Caledonian Horticultural, and that both might go on together in a career of prosperity.

Mr. THOMSON briefly returned thanks for the kind manner in which his name had been mentioned by the right hon. Chairman. With reference to amalgamation with the Caledonian Horticultural Society, he might be allowed to say that he should be delighted to see that event take place. The only difficulty was the circumstance that the Caledonian was under a charter, and rules and regulations entirely different from the Edinburgh Society, and rightly or wrongly the practical gardeners considered the machinery of the old society too complicated. On the other hand, the Edinburgh Society, though it had existed for only eight years, had had a series of most successful shows, crowned by the great show which they had had to-day. There was no point in the show he regarded with more satisfaction than that they had been able to attract to the Scottish capital so many men eminent in horticulture. The right honourable Chairman had taken a great amount of credit to Scottish gardeners. Now, he had lived a long time in England, and he had had very able English gardeners under him; and there were English gardeners in this room who were second to none he knew in Scotland. There were florists and nurserymen in England who were not surpassed in the world. They had some gentlemen present on this occasion whose names were familiar in their months as household words. They had present among them Mr. Turner, Mr. Paul, Mr. Standish, Mr. Moore, and many others, whom they were all delighted to see, and to give them a most cordial reception. He begged to propose "The health of the Strangers present, with the name of Mr. Turner of Slough."

Mr. TURNER returned thanks, and offered, in the name of the horticulturists of England, as cordial a welcome to the Great International Show there, in May next, as they had on this occasion received from their Scottish brethren.

Mr. CAMPBELL SWINTON proposed "The health of the Judges." The very excellent show had, he said, imposed all the more arduous duties on the Judges, whose impartiality, assiduity, and skill would be acknowledged even by those who had not succeeded in obtaining their awards. He regretted the absence of Dr. Hogg, who had done more for the culture and nomenclature of fruit than probably any other living man, but he had the pleasure of conpling with this toast the names of Mr. Moore, well known as a leading authority in horticultural literature, and Mr. Paul, a gentleman who was by universal consent acknowledged to be one of the most distinguished florists in the kingdom, and whose writings had for a considerable period acquired the reputation of standard works.

Mr. MOORE, Chelsea, briefly returned thanks.

Mr. WILLIAM PAUL, of Waltham Cross, in responding to the toast, said that the show of fruits was the finest he had ever seen, and both fruits and flowers were in some instances so near in point of merit that they had taxed the power of the Judges to the utmost. He hoped that the exhibitors were satisfied, and could assure them that the Judges had worked honestly at their task and brought their best powers to the work. Perhaps it was too much to expect that all should be satisfied, as cultivators and exhibitors were from familiar acquaintance so well versed in all the beauties of their own productions while striving to correct their defects, that they were apt to over-estimate the one and not dwell sufficiently on the other. Exhibitors often viewed their plants as parents did their children, and we all know how many wonderful children there are in the world in proportion to the number of wonderful men. The number of good things had not surprised him so much as the thorough absence of all that was bad, and the lowest prize was, in his opinion, a prize to be proud of. He thought the thanks of horticulturists were especially due to the Managers of the Show for the business-like manner in which they had conducted it, and also to those who had aided the movement by their money and influence. Perhaps there was no country in the world where there were so many rich people as in Great Britain, and certainly none where that great wealth was so freely bestowed to promote all that was useful and good, and calculated to improve the taste of the community at large. He could not help contrasting the state of horticulture now and thirty years ago, and congratulating the present generation on the progress that had been made. Thirty years ago Knight and London were the great names in gardening, and Paxton and Lindley were the rising stars. There was then no "Gardener's Chronicle," no "Journal of Horticulture." Dr. Hogg had not written his "Manual of Fruits," and Mr. Moore had not given us those faithful and minute descriptions of Ferns and other plants which rendered the pencil of the artist almost superfluous. We had then no Hybrid Perpetual Roses; few of the present most beautiful varieties of flowers; no British Queen Strawberries; no Duchess of Buccleuch Grapes; no Castle Kennedy Figs. Yet great as had been the improvement in the past, he looked forward to even a more glorious future. The art of cultivation had been pushed almost to its limits, but there was a wide and almost untrodden field opening before them; he alluded to the improvement of races by hybridisation and cross-breeding. In order to obtain all the results that were derivable from this source, the education of the rising generation of gardeners and nurserymen should be more systematically pursued. In addition to the ordinary routine of education, a special education was demanded. The rising generation should be taught to observe facts correctly, to note all the phenomena

of nature, to collect and classify instances, and to reason accurately upon them. They should be taught to go from the garden to the study, and from the study to the garden, to collect facts in the one and digest them in the other for a crowning act to reduce their conclusions to practice. One word more. He had often regretted that there was not a stronger fellow-feeling between the scientific and practical workers in this great field of nature. The scientific man was too apt to look coldly on the practical man, and the latter to return the compliment sometimes with interest. He could not understand the necessity of this. To his comprehension it was both unchristian and unphilosophical. He looked on the two arms of the service as members of the same body; although each might accomplish—nay, had accomplished—great things alone, he thought that the union of forces would be productive of far greater results. They had accomplished a great deal by their exhibition that day; would they take up this new work? He believed by so doing they would do much good in their own day, and he remembered with gratitude in the future.

The "Horticultural Press" was then proposed by Mr. Thomson, and the "Competitors, successful and unsuccessful," coupled with the name of Mr. Meredith, by Professor Macdagan. Mr. Meredith in replying expressed a hope that many of the Scotch gardeners who had competed so successfully would visit the Great International Show in London, in May next. Mr. Harry Veitch proposed the health of the Chairman, and spoke in highly eulogistic terms of the Exhibition, than which he had never seen a better.

### CONSTRUCTING A SMALL GREENHOUSE.

I THINK of having one about 12 feet by 8 feet. Would a flue work well made about 9 inches square, with a hollow space on each side, carried once round the house below the floor, and then continued above the floor along the back and one end (not the fireplace end) by means of round nine-inch earthenware-pipes? Would it draw sufficiently? And would the back and end get more than their proportion of heat? My object in having it so long is to make the coal do as much work as if used in connection with hot-water apparatus.

Your Manual on "Greenhouses," says, at page 13, "The angle of the roof is best when low—say about 30°, that greenhouse plants always do best when the roof is pitched low. A higher angle is apt to draw the plants too much on one side." At page 29, it says, "An angle of 45° combines more useful properties than any other. For very early things the glass should approach more nearly the perpendicular—say 25° to 35°. For gaining most power in summer, the angle should be larger—say 50° to 65°. In other words, the front would have to be raised, so that the glass would be flatter." In one place 25° to 35° is called "low," or flat, and in the other it is called nearly perpendicular, while 50° to 65° is called low or flat, as though in one place the reckoning is made from the meridian, and in the other from the horizon; and after all a margin of about 20° is left between what is considered the best angle in the different places. Will you please give me a definite figure?

Can you tell me whether Beard's houses let in rain or not? It appears to me that the glass being laid edge to edge, even though ground true at the edges, would let in water, if only by capillary attraction.—WEEKIN.

[We have no doubt that the flue will answer the purpose admirably, if the top of the flue forms part of the floor. The hollow space on each side of the flue will also be an advantage. We think you will have quite enough of heat without the continuation of nine-inch earthenware-pipes above the floor; but that you can please yourself about. There will be no difficulty in the flue drawing, provided the bars of your furnace are from 20 to 24 inches below the level of the bottom of the flue, if more, so much the better, and the flue rather rises than sinks to the point where it enters the chimney.]

We have frequently explained how the difficulty is caused about the angles of roofs, according to the side of the quadrant used. The angle of 45° is the same in both modes of reckoning, and the first part of your letter just shows that what is termed the English mode of reckoning, is adopted when it speaks of a house from 25° to 35° getting more nearly to the perpendicular than 45°. In the other place, where an angle of 25° is spoken of as low and flat, it shows that the French mode of reckoning is resorted to, that low roof of 25° being identical with our flat roof of 75°, or just a little more steep than a common garden frame. Some time ago figures and explanations were given, illustrative of the whole affair, but there is such confusion, that the context in the meantime must supply the chief information, as to what system the writer adopts. For ourselves, we always reckon from the perpendicular line of the quadrant, and count on the arc beginning at 1°



on to 90°. Thus, if you have a base of 12 feet, and a perpendicular or back-wall line of house also 12 feet, the hypotenuse line will form with the others a right-angled triangle, and the hypotenuse line will give a roof at 45°. When you want a steeper roof, for early and late forcing, you must either greatly raise the back wall, or lessen the width of the base line, so as to have a slope of 35° or so. Now, what is called the French mode just reverses all this. It presupposes calculating from the base line of the quadrant, and hence though 45° would be the same in both cases, 35° in this instead of being steep, would be moderately flat, the same thing, in fact, as 55° with us. By making a quadrant with a piece of pasteboard, or a board, and having a small weight fixed to a string in the corner, and then applying that to the slopes of roofs, you will at once perceive that according to the sides you use, the reading will be thus quite different. It would be well if in this serial, the mode of speaking of the angle of a roof should be made uniform. It is very confusing, because the steep roof of 30° with us is by the other mode the steep roof of 60°, and our 10° would be identical with 80°. Some years ago an editorial decision on the subject was requested.

A roof of 45° is good for general purposes, and especially where there is no front glass. In a greenhouse, where there is front glass, the roof may be as flat, according to our reckoning, as 60°, or even 65°, as a steep roof would necessitate such a height of the back wall above the height of the front glass. A house with a roof of from 35° to 40° is chiefly useful for early forcing, and for keeping fruit in winter. From 50° to 60° is a good slope for summer work. As the sun gains altitude its rays do not strike a steep roof with the same force as they do a flatter one. These matters have all been discussed at considerable length. If still there should be any doubt about the angles of roofs we will give, or rather repeat, illustrations.

Mr. Beard's houses do not let in rain, and, what is more remarkable, there is scarcely such a thing as drip from the condensed moisture inside. It had rained the whole day before we saw them. We went without any notice, and we saw not a single mark of drip on the floor. The squares fit closely enough together to prevent rain entering. As far as we recollect, the angle would be from 50° to 55° by our mode of reckoning. Another person has made the inquiry whether such a mode of glazing would do for garden frames. We could not be so sure of that if they were as flat as 80°, but as we saw none we would rather let others speak on that point. The absence from drip from condensed moisture inside we believe to be owing to the plane surface and no interruption of laps. The moisture, both inside and outside, seems to trickle down the glass until it ends in the neat spout, the front square abutting right over it. It did not strike us that the glass was grooved at the edges. It is wonderful how true and uniform large boxes of glass are cut. We may be wrong, but our impression is that no extra care was taken with the glass, but it was very neatly joined.

You will find it difficult to get a cheap work so describing greenhouse plants that you can at once find out and name what you have. Until you are more acquainted with the subject you had better have names with the plants you buy. It would require a first-rate botanist and good references to name a lot of Aloes, Cactus, &c. One of the best that we know as oral instructors would be Mr. Baxter of the Botanic Gardens, Oxford, as he used to have a fine collection of succulents. All works on plants to be particular must be expensive. Perhaps the cheapest work, for its immense mass of information, is "Loudon's Encyclopedia of Plants."]

## THE MODERN PEACH-PRUNER.—No. 15.

### CLOSE PRUNING FOR THE OPEN AIR.

UNDER this term we comprehend both the summer stopping of the shoots and their winter regulation.

Although the work for the winter depends entirely on the condition of the shoots after their summer growth, it is common to see them comparatively neglected during this important period, consequently, the winter pruning is made to assume an undue pre-eminence, which all modern experience tends to show to be an error. By reiterated close pruning of summer wood the trees assume an appearance which has been termed "cordon," from a resemblance to a thick cord or cable. This term applies to trees in any form. Fan-shaped trees may be called *horizontal cordons*. Those planted closely together and trained at an angle of 45°, are styled *oblique* or *diagonal cor-*

*dons*. Trees with any number of upright leaders are *vertical cordons*, while those winding gracefully round wires, or posts, are *spiral cordons*. All these are formed by the same mode of close summer-stopping of the shoots. For trees under glass no better or more simple plan can be imagined, and our object is now to show that there exist no difficulties in the way of a similar treatment of trees in the open air. The advantages of this method are great. In the first place, there is a total suppression of the summer and winter tying-in of the shoots. This alone constitutes an appreciable gain, especially during a period when we have so many claims on our time. Again, the shoots being closer-lying they require less space between the leading branches, and thus there can be more of these.

Systematic summer-stopping of the shoots affects the two-year-old wood more than any other style, and tends to produce and maintain, in the case of the Peach, those valuable fruit-bearing spurs which produce the finest fruit, and last several seasons without much change. In this way we greatly multiply our chances of a good crop, for if one class of shoot is unripe, that is no reason why the shorter and closer-lying class should not be in a riper state. Indeed, close pruners of long practice will not hesitate to consider these short spurs as of first importance in the open air.

In the orchard-house, trees, several seasons old and in good bearing, soon become covered with these short fruit-bearers (classed 5 and 7), no matter what form the tree is trained under. It seems evident that if we can succeed in replacing the old long shoot by a group of several short ones, each fully as capable (to say the least), of production, that we have materially augmented our chances of a good crop. The objection usually made, that on these short spurs no well-developed leaves can be secured, is not sustained by practice. The production of healthy leaves depends far more on the state of the roots, and if these leaves are kept in a clean and healthy condition, there need be no fear of their not elaborating the sap. That the principle of close summer-pruning is sound is evident from the abundant crops produced, not only of Peaches, but also of every other fruit, even including standard Grapes; Vines trained in this way may be seen in the public gardens at Chartres. For Pears, especially in the open air, trained as diagonal cordons, it is admirable. Late sorts are also best ripened in this way. It might be supposed that by repeated summer-stopping of the shoots, and their grouping on short spurs in time some inconvenience might be felt by reason of their protruding too far from the wall. But ten seasons of trial have clearly shown me that this is not the case. In the instances where, by neglect or some other cause, these shoots have really lost the advantage of the wall heat, they have been removed and their loss readily supplied from others better placed.

At the winter season all ill-placed shoots are thinned out, though it is evidently better not to allow them to grow irregularly during the summer. Mistakes or omissions are more easily remedied under close pruning than under long pruning, while, in certain cases, we are not debarred from utilising any applicable part of the older system. Close-pruning, in some shape, has been always known, but it is only within the last few years that it has been reduced to a system. It now includes as its advocates many of the first names in horticulture. "I accepted it with enthusiasm," says one eminent man, whose work, in 1863, received the French Imperial sanction, "because it is normal, and in harmony with the laws of vegetation, and of fructification." It would be an error to suppose that there is but one system of close-pruning. That originated by M. Grin is by far the most severe in its rules. It is, perhaps, on account of this, that it has not been generally adopted, and possibly some change is necessary to meet the exigencies of our different climate. This change is all I have ventured to suggest, for our climate is not understood abroad.

Partly, also, and for similar reasons, no doubt, Professor Gressent in his very recent work, after passing the highest eulogium upon M. Grin's theory, which he acknowledges as the foundation of a totally new school of pruning, recommends a modification of this system, which is very interesting. I, therefore, determined to make a trial of its merits during the present season, on trees in the open air.

The plan adopted may be stated thus:—The eyes (ripe buds) of a bearing branch are disbudded as soon as they are about to develop. In each group one (the strongest) is left on the lower side of the branch, and another (the weakest of each group) on the upper side of the branch. All these are allowed to grow freely, and when they have reached to 6 or 8 inches in length, they are stopped at 5 or 6 inches, according to the sorts



operated on. It is necessary to allow every shoot to make the growth indicated—that is, at least 6 or 8 inches, before arresting its progress. By this means the operation is not done all at one time, which might otherwise produce too abrupt a check in the circulation of the tree, and cause it to lose too much sap, thereby inducing subsequent gumming.

By the time these shoots are thus stopped they will have attained a certain woody firmness, and we may expect that some of the eyes situated at the base of the shoots will become well formed. By suspending the vegetation, and concentrating the action of the summer sap on these eyes, “either the rudiments of flower-buds or May clusters may be constituted, but no premature laterals be thrown out.”

Soon after this stopping, a second growth is made from the extreme bud of the shoot. This new growth is allowed to make 8 inches of growth (this takes us to about the end of June), then, if at this time the eyes at the base are well constituted, the second or new growth is cut back to about half way.

At the winter pruning the shoot is cut down to the second group of triple buds from the base. The next season these groups will bear, and the effect of this winter close-pruning is, that the latent buds at the insertion of the shoot develop themselves, and thus form succession shoots. That which has borne is now cut out, and a fresh short shoot takes its place.

All these operations presuppose, of course, that the buds at the base of the original shoot were sufficiently developed by the effect of the first operations described; but, should they appear neither well formed nor prominent, the shoot should be cut back below the point where it was first pinched several successive times during July, so as to concentrate the sap upon the lowest buds, and form them. This is the part of the method which requires the greatest amount of experience and attention. Possibly one single cutting-back may suffice, but with trees of strong growth, or badly balanced, some portions might need frequent operations. In short, the object being to form and strengthen the eyes at the base of the shoot, all the attention of the pruner should be directed to attain this end.

All these operations were carefully tried this season on my own Peach trees in the open air, and no mention having been made of the necessity of tying-in the shoots (which in England, at least would seem to be necessary), it was found that the two or three extreme buds of the shoots generally sent forth short laterals (owing, in a great measure, to their vertical position, they being untied), but that the eyes of the lower portions of the shoot were well formed. Cutting back beyond the first stopping (which stopping was done at 6 inches as soon as 9 inches of growth were made) is a valuable plan, and very useful in regulating the growth of the whole side of the tree.

This modification of close pruning has been introduced here for the sake of completing our description of the subject, and to show that there exists more than one form of the system. It also proves the interest excited in the matter, and is suggestive in itself of further improvements. Being the very latest continental experience it is also of value.—T. C. BRÉHAUT.

### YORKSHIRE HERO PEA.

THE correspondent who made inquiry in your Journal respecting the merits of the above-named Pea, will not require to grow it if he grows Veitch's Perfection, which is, on the whole, by far the better Pea of the two.

I grew the Yorkshire Hero this season alongside of Veitch's Perfection. The Hero grew considerably dwarfer, shorter in the pod, and its bearing season was much shorter than that of Perfection. The size of the peas was about equal, and as regards flavour there was not much difference.

Veitch's Perfection, Champion of England, and Dickson's Favourite, are three varieties of Pea difficult to beat for general purposes.—JOHN EDLINGTON, *Wrotham Park*.

### LILIUM LANCIFOLIUM AND LILIUM AURATUM AS HARDY BORDER BULBS.

WILL you inform me whether the *Lilium auratum* would be likely to succeed in the open air? I planted three bulbs of *Lilium lancifolium* in an open border in the autumn of 1863, protecting them in the winter with coal ashes. Last year they sent up six shoots, and had more than sixty flowers on them altogether, and this year there are nine shoots, with about seventy flowers. I get about four weeks' bloom, and the flowers

are quite as fine as those usually seen in a greenhouse. I imagine that *Lilium auratum* would succeed with similar treatment. If no one has at present tried it I would let you know the result.—JAMES SNOW WHALL, *Workshop*.

[The *Lilium auratum* we consider as likely to endure the winter under the same treatment as that you bestowed on *L. lancifolium*. They are both natives of Japan. We are not aware that any one has hitherto tried the experiment.—EDS.]

### MY PLANTS,

AND HOW AND WHERE I FOUND THEM.—No. 9.

As a sort of counterpoise to the inequality of the growth of the Hart's-tongue in the two counties mentioned in my last I may remark that I rarely met with the Hard Fern in Norfolk, and those few specimens which I did obtain were small and impoverished; whereas in Staffordshire, about Free Hay, Cheadle Common, &c., and also upon the banks of the Part and other parts of Devonshire it grows most freely, its luxuriant and beautiful male and female fronds forming a contrast to the Ferns around it. A very local Fern is found plentifully in North Staffordshire—I allude to the *Ophioglossum vulgatum*. Its leafy frond and tapering spike is not very easily discerned by the passer-by, particularly as it is often found side by side with the Twayblade, the same loamy soil being necessary to both plants. On a bank at Lower Tean, near Heybridge House, overshadowed by trees, I first saw the Adder's-tongue. On making a second visit to the place a few days afterwards I was some time ere I could again come upon the plants, so much concealed were they by the grass and shrubs with which the bank was covered. In the same spot grew the Herb Paris and the *Equisetum sylvaticum*. In Mr. Moore's invaluable little book of “British Ferns,” Cheadle and Farley are given as localities for the *Botrychium lunaria*. I have vainly at present sought for it in both these places. In meadows near Cheadle and at Oakmoor the Adder's-tongue is quite common; and I am told that some few years since children were sent out by their parents to gather the leaves of it to be made into ointment for a family medicament. Another small harvest for the children is the Coltsfoot gathering. In March and April little ones of all ages are trespassing over ploughed fields in search of the leafless yellow flowers. When collected they are made into beer and wine, the former after the fashion of our ginger-beer. Another plant very common in this county, which was unknown to me before my residence in it, is the *Alchemilla vulgaris*, Lady's Mantle. I have a specimen more than a foot in height; but generally it grows much shorter, and with its green flowers is not very easily distinguished by the uninitiated from the grass by which it is surrounded. I recently saw in a friend's garden a very pretty and useful edging formed of this plant. It made a neat and compact border, and, both flower and foliage being green, it does not distract the eye from the brighter groups within its limits.

I think one of the most glorious days, as far as regarded additions to my fernery, was that on which we drove from Tean, through Oakmoor, and so on to the Wever Hills. Limestone hills they are, rising 1150 feet above the sea. Miles and miles away one sees these three conical eminences covered with fine short grass, and in many places almost perpendicular. Woe to the too eager botanist who unguardedly commences hurrying after some newly discovered plant. Great caution is necessary in botanising upon their sides. From the summit of one of them a splendid view is obtained of Ellastone and other villages in the beautiful valley beneath. The sun was pouring a flood of that purple and golden evening light over the valley as we were quitting the hills, and I never beheld anything which would carry one's thoughts more immediately to the portals of “Jerusalem the golden” than that scene. The mistiness and indistinctness of the surrounding objects, the line of light on the river in the valley, the warmth of colouring, the glorious sun itself which seemed the very door of heaven—altogether the scenery was so magnificent that it did not require a very vivid imagination to feel that these evening scenes are sent to lure our thoughts by such connecting links from earth to heaven. Who has not some child or loved one up there, far, far away beyond the sun, to whom our thoughts fly along this golden sunlight, until they seem to reach the distant spirit-home?

But I am rambling on with my own thoughts instead of commencing our journey from Tean in proper order. After passing along the heathy roadside which leads from Free Hay

to Alton, you can either take the main road to Oakamoor, or perchance a civil word to the keepers of the lodge gates may fortunately obtain you permission to pursue your way along the undulating and romantic drives of Alton Towers, the residence of the Earl of Shrewsbury and Talbot. There is a damp coolness and aristocratic grandeur about the approaches to these places which fills one with a quiet and reverential awe. The noble trees, through whose stalwart branches the sun scarcely ever penetrates; the lichen-covered stones by the side of the drives, with the water oozing over and between them—all bespeak age and years of undisturbed growth and luxuriance, which naturally command respect when we contrast the constant changing of owners and the consequent unthriftness of many small estates and farms which are daily witnessed. The very Mosses and Ferns in these woods and drives look as though they felt their superiority to the Ferns and Mosses of the bank without the gates. I believe there are Dives and Lazaruses amongst flowers as well as human beings. The scent of the turf here is such as one only finds in spots where wealth reigns over all, and where everything is carefully tended and looked after. As I pass under the wall or hedge of a strange garden I rejoice in this undefinable but well-known scent: it portends that better things are to be found within. One expects to see the mowing-machine at work, and gardeners here and there busily employed. It speaks of cool shrubberies of which the walks are green—those dear, old-fashioned, winding walks which one seeks in vain in new gardens; the seats, the stump of some old tree, in the interstices of which the Ivy still makes its way. Here the love-tale was told, and on the trees the initials were carved, which will outlive the carver and the loved one; and here one wandered in loneliness when the carver became estranged and false; and here also one wept in silence for the soul which had just departed from the one who had watched our earliest years, and who had with dying lips blessed us and left us to fight the world alone.

There is no comparison between new and old gardens. The scent of which I have been speaking above, and which clings to old lawns and shrubberies, speaks of grass ever green, which, if the clouds withheld their showers, were never allowed to become parched and dry; and it also surely speaks of moss, almost imperceptible, but still there, inseparable from the grass. How the Ferns revel in the moisture and shade of those Alton woods! and how broad and healthy are the leaves! All up the hills to the right they grow. Then comes at their feet the lichen-covered stone, then the winding drive, then again more Ferns covering the descent to the river, and beyond the river, rising to our left, are Fern-covered hills.

We were long in passing through this place, although I was rather eager to reach Oakamoor, having heard that the Oak Fern was to be found there. I had heard its praises so loudly sounded, that I quite feared lest by any misadventure we should not gain admittance to the wood in which these treasures were obtainable. The descent to Oakamoor is charming, there is no view of the little picturesque village until you are quite upon it. The only thing which rather mars the beauty and simplicity of the scene, is the fact of a horrid silk factory which thrusts itself in view just as you are descending the hill: there it is with its busy workers in the valley beneath. We had hoped that we had left behind us in Tean and Cheadle, with their large tape factories, all the bustle and confusion of machinery and looms; but there it was again, the ringing bell, and its answering stream of hurrying pale-faced workers. We were glad to see them disappear down the valley, and turning our backs on them fancy such things had never been, as we drove over the bridge to put the horse up at the adjacent inn. My husband had some engagement in another part of the village, and I meantime called upon some young ladies who, I had been assured, would show me the locality of the Oak Fern. I fortunately found them at home, and in a kind and ladylike manner they offered to point out the spot, though, they added, so many friends had applied to them for roots of this Fern, that they almost feared my success in securing any, particularly as it was very late in the season. Passing through a farmyard, and over some meadows which were abundantly supplied with plants of the *Ophioglossum vulgatum*, we reached the "promised land." No sportsman's heart could have responded quicker to the "view halloo," than mine to the first assurance of "a find," by my new friends of the plant of which we were in search. As I said before, it was late in the season, and the fronds were brown at the edges, which were also knocked about and broken. Still what a lovely plant it was, so delicate and transparent! No fructification was visible

on the fronds we procured that day. It was stooping under the Nut boughs that we found this Fern. In its secluded habits it reminded me of the Violets. I was so greedy of my new acquisition that I secured a basketful of the tuberous roots, whether they had leaves on them or not, and I planted one of the large baskets which we have in this neighbourhood full of plants, putting broken pieces of brick, &c., at the bottom, and filling it with the earth in which I found the plants. How much I looked forward to my next year in Tean, when these carefully-planted roots should be springing into growth! I had many of these baskets planted with various Ferns, but I believe this would have exceeded them all. We left the village, and gave my baskets in charge of a shopkeeper there, but he took no care of them, and when I applied for them, he said the basket had "rotted away." Having kept them a much longer time myself, I suspect he had emptied out the contents, and made use of the baskets.—ALICE.

## PRESENTATION TO MR. THOMSON OF DALKEITH.

ON the occasion of the International Exhibition at Edinburgh on Wednesday last, nine of those who had been foremen to Mr. Thomson at Dalkeith, but who are now in situations for themselves, took the opportunity of presenting him with a substantial testimonial of their regard for him, and as an acknowledgement of the benefits they had received from him during the period they were in his employment. All of them had become head-gardeners in first-class situations on the recommendation of Mr. Thomson, and the subscription to the testimonial was strictly confined to those only who had acted in the capacity of foremen at Dalkeith during Mr. Thomson's time. The presentation took place in the Douglas Hotel, St. Andrew's Square, in presence of seven of the subscribers, and a number of Mr. Thomson's friends, and it consisted of a very handsome and valuable gold watch, on the back of which was a chaste device, in the centre of which was engraved—"Presented to Mr. William Thomson, by nine of his late foremen," and artistically incorporated with the surrounding decoration, were the initials of the donors, who are—Mr. H. Rose, Floors Castle, N.B.; Mr. Dell, Stoke Rochford, Grantham; Mr. D. Brown, Corehouse, N.B.; Mr. John McIntosh, late of Raby Castle; Mr. W. Prentice, Shugborough Hall, Rugby; Mr. William Dick, Wynyard Park, Durham; Mr. James Morrison, Aneicheruive, N.B.; Mr. Harry Knight, Chateau Pontchartrain, near Paris; Mr. John Simpson, Wortley Hall.

Such a presentation as this is unlike the ordinary testimonials which are too frequently contributed by those who know comparatively little of the recipient. It is an expression of the gratitude of those who had every opportunity of seeing and experiencing the merits or failures of him with whom they served, and it is greatly to the honour of Mr. Thomson, that these nine of his late foremen should unanimously have resolved in paying so high a tribute to his worth. May he live long to receive those expressions of friendship and regard to which he is so justly entitled.

## THE BOTANIC GARDENS AT ST. PETERSBURG.

THE Botanical Gardens of St. Petersburg are situated on the north side of the Neva, on the Aptekarskoi Ostroff, or Apothecary's Island, at a little more than two English miles from the centre of the town. Although the gardens and houses are very well kept up, there being about seventy men constantly employed in them, they are not much visited. In the first place, it is too far to walk; for in spring, when one naturally feels a desire to see flowers and foliage, the roads are next to impassable—mud and slush having entire sway; and in the heat of summer one does not feel able to move out so far. Then, again, in St. Petersburg every house is profusely—more or less so, according to the means of the owner of course—decorated with green plants and foliage of all kinds. Those who can afford to do so employ a florist, who seizes the opportunity when it offers, and changes all the plants, so that they never look drooping; others, again, take care of their own, having greenhouses in the country, and by that means keep their town houses gay. I ought to say that—now I am speaking merely of the town houses of the nobility and gentry—naturally enough their country seats (or *datchas*) are always beautifully furnished with the finest ornamental plants and shrubs. I



shall have occasion hereafter to speak more fully of these campaigns.

I drove up to the door of the Botanic Garden-house, and although it was a private day, I got in by explaining that I came with the intention of taking notes of what I saw, and presenting them to an English Journal. An intelligent "German-Russian," as the Finlanders are called in St. Petersburg, by name Wihiting, showed me over the place, and proved a very agreeable cicerone. Being a dull cold day, the sun did not light up the various houses as I could have wished, and, perhaps, I thereby lost some flowers; but as on the whole I remained mostly under glass it was not so noticeable.

The first house which we entered was a sort of semi-span, with a circular continuation of the half-roof, making the house wider and more roomy; the height was very great, perhaps 20 feet at the apex. There was a stage in front of the house, covered with fine sand, on which stood the pots with plants. The centre of the house was made into beds, surrounded with a low rockery wall. Here were some graceful *Arancaria excelsa*, fine specimens, and several very large *Rhododendrons*, amongst which a scarlet *R. arboreum* figured prominently. Passing on, we came to a New Zealand *Banksia* (*B. dryandroides*, Baxter, was on the label). This plant was valued at 600 roubles! it being, as the gardener said, the finest specimen of the kind in the world. This must be taken *cum grano salis*, I should fancy.

The paths in this house curved about, and although the trees and shrubs were not all rare, the effect was very good. Passing along I noticed a handsome *Banksia*, *Cunninghamia*, a *Stenocarpus*, a *Dryandra nervosa*, &c., and then found myself in a new and beautiful span-roof. The temperature here was that of a cool stove, although some of the specimens would seem to us to be more fitted for the stove proper. The arrangement of this house was most tasteful. The principal path started from a pool of limpid water, and dividing and joining again, at last met at the other end. The head, so to speak, of the building was a nicely formed rockery, Ferns and Mosses growing most luxuriantly in every crevice, and a few drops of water trickling over the stones into the pool below, whence, alternately disappearing and coming to light again, the water found its way through the entire length of the house.

The path was edged with rockery-work, and the beds planted with Ferns, *Begonias*, *Gesneras*, *Caladiums*, and numerous Orchids, of which there was also a large number suspended on logs, and in pots, many handsome Palms, and I remarked a plant, dignified by a long name—*Lepidozamia Peroffskiana*, a Mexican production, which I do not remember ever having seen before. There also were plants of the *Brassiopsis glomerulata* (Hook.), *Brachyglottis repanda*, *Hedera helix latifolia maculata*, a very pretty variety, and *Lonicera brachypoda* trained in various shapes. Further along were *Agaves* and *Aloes*, a *Rhopala corcovadensis* from Brazil, and one *R. australis*.

From this house we passed on to two warm semi-span-roofed houses, which contained specimens of *Aristolochiaceæ*, *Saurauja macrophylla*, *Carapa guianensis*, *Justicias*, &c. I noticed here a splendid *Colens*, *C. malabaricus*, the leaves of which were almost black. Is it cultivated in England? I asked myself. Certainly I have not seen anywhere such a black-leaved *Colens*.

Passing through a small cool house, in which I noticed a *Libocedrus chilensis* of great size, we entered the *Camellia*-house, which was rich in enormous and well-grown specimens of *Alba plena*, *Glabrosa coccinea*, and others. This brought us to a cool house, filled with *Rhododendrons*, *Azaleas*, *Pæonies*, &c. Conspicuous amongst the first were *R. arboreum purpureum*, *Dalhousianum*, *Thomsoni*, and *Smithii aureum*. All these were really fine, carefully-tended specimens, which did the place credit.

Farther along we passed through houses containing specimens of *Begonias*, *Pandanus utilis*, *Hæmantis*, some of which were in flower; *Clivia miniata*, also flowering; *Caryota urens*, and many *Cordylines*, mostly very good; some were of a very dark hue. It was here I noticed a *Chamaedorea* (sometimes called *Nunezia*), from Guatemala, glorying in a long name; the plant was noticeable for its fragrance.

Other houses, through which we made our way, details of which would be wearisome, led us at last to the Palm-house. This is worthy a better penman than I, but I must do my best. We all know the Kew Palm-house well; that at St. Petersburg puts ours into the shade. I am now referring merely to the

arrangement of the interior and the dimensions and splendour of the Palm trees. For architectural beauty, there can be but one opinion—the Kew Palm-house is the finer. Further, I believe it is one of the finest, if not the finest in Europe. Its dimensions, shape and construction certainly surpass anything of the sort I have ever seen. Some notes on the respective merits of the great glass houses of the Continent would be very interesting. Perhaps some of your readers are possessed of particulars on this subject, and I am sure all would be glad of descriptions of the noted houses abroad as well as of those at home. Anybody with taste, having seen the two, cannot fail to recognise the artistic talent displayed in the arrangement of the great St. Petersburg Palm-house; and then the specimens there are far finer than ours, larger and denser in foliage.

The paths wind in and out under the trees, so that one is led to think oneself in the tropics. A perfect jungle it is in parts, masses of most luxuriant vegetation all growing healthily, blended harmoniously in a whole, with occasional vistas which must be seen to be appreciated, having a noble Palm towering up into the air at the end. In many places the roof cannot be seen, foliage being the only thing visible overhead. Amongst the Palms may be seen many *Bambusas*, *B. verticillata*, *Livistonia chinensis*, *Attalea princeps*, and a large number of *Yuccas*, *Musas*, &c. There were two very fine *Strelitzias*, *S. Nicholii*, and *S. regine*, a *Phoenix sylvestris*, and many Cinnamon plants, Sugar Palms, and Cacti, some of which latter had attained an altitude of 30 feet.

There were other houses, warm and cool, and stoves, all of which contained plants of much interest to the horticulturist, but to mention more names, or go further into details, would be needless, and, I fear, tiresome to your readers.

The houses were for the most part heated by hot water, after the approved modern principles; some were heated by stoves (*poêles*), and some few, requiring much heat, by the two combined. The covering was of wood shingles like those of a shop. These are found more to be relied upon than any kind of matting. None of the houses had double glass—a plan of glazing I quite expected to see, as all the dwelling-houses are so provided for the inclement season. The gardener assured me that the cold was kept out entirely by the ample fire-heat.

And now I have done, at least for the time being. Much remains to be said on the arrangement of the houses, gardens, and conservatories of the wealthy class in St. Petersburg; this must form the subject of a future letter.—PATELIN.

## FUNGUSES AS FOOD.

In former Numbers of your Journal, some correspondents recommend the use of most of the Funguses, or Toadstools, as many of the country people call them; and Mr. Fison, page 150, and Mr. Wason, page 88, of the present volume, speak of the prejudice of the people against the use of them as food. I have no doubt that "prejudice" has saved many lives. Science may save the learned, but the ignorant are only safe by their "prejudice," as your correspondents term it. The unlearned are all prejudiced against the bright berries of the Nightshade, and other vegetable products, because they have heard of their fatal consequences from others, and are, therefore, content to avoid those products, rather than prove for themselves.

I have now to state the result of a dish of Funguses that last week came to my table. They were brought in by a man who had for years been a Mushroom-gatherer, and my wife having no suspicion of there being any of a bad quality among them, stewed a few for breakfast, and we all partook of them, I remarking at the time that I did not think they tasted like the last we had.

About an hour afterwards I began to feel unwell, nausea and sickness soon succeeded; suspecting the Mushrooms, I went home, and there found my family in a worse state than myself, they being attacked with violent retching, the worst being my wife. I directly took a good draught of mustard and water, giving some to the others. Mine soon returned, and I was so far all right, but not so my wife. On her the effect was great prostration of strength, her hands and arms becoming cold and benumbed; but I am pleased to say that from the action of kind neighbours externally rubbing, and emetics internally, she soon revived, but it was not till the morning of the third day that anything would remain in her stomach.

After this, I can only advise those that are not "prejudiced," to beware.—G. CLAPHAM, *The Gardens, Epsden Hall.*

## STATICE HOLFORDII MANAGEMENT.

As this is a most beautiful pot plant I think it ought to be more generally cultivated. I have grown it for four years, and find it answer admirably for conservatory decoration.

To propagate it, take off young shoots in April and insert them in thumb pots, filling the pots, after putting in plenty of drainage, with sandy loam, with a little silver sand on the surface. Let the heel of the cuttings be in the sand. Plunge the pots in a bottom heat of 90°, watering very sparingly, and in the course of three weeks they will have filled the pots with fine white roots and be ready for a shift.

They may be now put into a compost formed of rich yellow loam mixed with a small quantity of silver sand and charcoal, and a little leaf mould free from any sticks. Pot them firmly in this compost in six-inch pots, and do not water freely until they are well established in the fresh soil. After this they will require a liberal supply of water, placing them in a heat of 70°, keeping a moist atmosphere. In the course of two months they will be pot-bound, and should have a shift into a ten-inch pot and be placed in a milder heat of 65°; all flower-spikes to be cut off, and twice a week liquid manure given the plants so as to make them throw out fine healthy foliage. By the end of September they will require a fourteen-inch pot, and by the beginning of January they will have become fine specimens; then allow them to bloom.

Plants treated in this manner will throw up from eight to twelve fine spikes 2½ feet in height, and when tied out well make a brilliant show in the conservatory, the colour being such a very beautiful blue. I have seen them in full bloom for ten months, but that is too long for them to stay in the conservatory, as a change in colour is required.

The only insect which troubles them is the brown scale, and that but very little.—W. B.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

The weather still continues favourable for the growth of the autumn crops, the whole of which, when necessary, should now be kept well earthed-up. Young weeds will now be making their appearance in abundance where seeds have been allowed to ripen and fall during the summer. The whole of the garden, where it is possible to do so, should be gone over and scuffled with a Dutch hoe, and the young seedlings left to be withered up by the scorching rays of the sun. *Cabbage*, prepare ground for the main spring crop. It should be highly enriched with manure. A quarter on which Onions have been grown is very suitable for this purpose. *Cauliflowers*, prick out the young plants as soon as they are sufficiently large to fix properly in the soil. Some may be pricked into a sheltered border and some into frames. *Cucumbers*, the plants in the forcing-houses must now be carefully attended to, every means must be used to keep them free from insects and in a healthy vigorous state. When the plants are firmly rooted give a little manure water every alternate time with clear water. *Lettuce*, prick out some of the Cabbage varieties into a frame to come in for winter use; also, continue to plant out strong plants of the Brown Cos for autumn use. *Onions*, pull up those that have done growing, and house them in a dry state. They should be sorted before being laid away in the root-cellar, and the thick-necked ones used first. The Onions, Gherkins, Chilies, and other vegetables used for pickling should be gathered for the purpose as they come in. *Potatoes*, when ripe, should be taken up as opportunity serves. Although attacked with the disease, and indications of an almost total failure were apparent during the very showery weather we had last month, now that we are favoured with fine, bright, sunny weather, it is to be hoped that the crop will be better than was anticipated. *Spinach*, thin the plants to about 9 inches apart; if obliged to step in amongst them, loosen-up the soil after the thinning is completed. *Turnips*, take the opportunity of thinning them as soon as they have made a rough leaf or two. Should slugs attack them, which is not unfrequently the case at this season, sprinkle soot or lime two or three times a week about nine in the morning.

### FRUIT GARDEN.

Fruit-gathering should be proceeded with as the different sorts arrive at due maturity. Avoid the error of clearing a tree at once without reference to the ripeness of the crop. Uncover Currants, if matted, occasionally during fine days. Trim and dress Strawberry plantations, and be careful to injure the leaves of the plants as little as possible, avoid deep digging

between the rows, which injures the roots; besides, the Strawberry rather prefers a somewhat firm soil. Espaliers and dwarf standards, or, indeed, any kind of fruit trees which exhibit more tendency to produce useless wood than such as is likely to furnish fruit, should be root-pruned as early as convenient in the autumn, cutting out any useless shoots at the same time, in order to expose the wood expected to bear fruit as freely as possible to light and air, so as to have it well ripened.

### FLOWER GARDEN.

Cut off the flower-stems of herbaceous plants as soon as they become shabby, and endeavour to prolong the beauty of Phloxes, &c., by keeping them well supplied with water at the root. Hollyhocks and Dahlias will still require occasional looking after to secure them against the effects of high winds which may now be expected. Let the borders be cleaned and neatly raked over, filling up any vacant places with Chrysanthemums, spring-struck Pansies, or spring-flowering bulbs. Mignonette for winter and spring flowering may yet be sown.

### GREENHOUSE AND CONSERVATORY.

When valuable stove plants have to be kept in the conservatory while in bloom, they will require careful management to prevent their being injured by damp; and they must not be over-watered at the roots, as stove plants are soon injured in a low temperature if kept too wet. Give air freely on bright days, but if the house contains many stove plants it will be advisable to shut up rather early in the afternoon to retain a little warmth for the night. Remove Azaleas which have set their bloom to the greenhouse, but the later kinds must remain in heat until the growth is matured and the bloom set. Keep New Holland plants, which have been placed under glass, cool and airy, and avoid crowding, especially in the case of plants, which are in a growing state; but everything must be allowed sufficient space, so that the foliage may be fairly exposed to light and air. Look sharply after mildew on Heaths, as this pest is sometimes very troublesome upon plants that have been growing freely in shady situations in the open air, and are in a rather soft state when taken in-doors, and apply sulphur freely on the first appearance of the enemy. The Persian and other Cyclamens should be examined and repotted where necessary. Admit air day and night to all descriptions of greenhouse plants. In many species the growth is not yet perfected, and an abundance of air is the only means that remains to bring about that result. This may be assisted on sunny days by early closing for a couple of hours in the afternoon, but open the houses at six again to get the cool night temperature.

### STOVE.

Stove and greenhouse plants of an herbaceous character, after they have done blooming, should have some care to ripen the roots properly before they are stowed away for the winter. To effect this with Achimenes, Gesneras, Gloxinias, &c., they should be placed in a spare house or pit near the glass, and supplied with water only to keep them from flagging. This will allow the foliage to ripen gradually, and, as a matter of course, the tubers or roots. Amaryllis and the different varieties of Japan Lilies require the same treatment; the latter, however, being more hardy, may be ripened off at the base of a south wall or in a cold pit. Brugmansias, Clerodendrons, Erythrinas, Allamandas, and plants of similar habit, may be gradually induced to enter into a state of rest in any house of medium temperature with an atmosphere drier than a common stove.

### PITS AND FRAMES.

One of the first matters claiming attention at the present time is that of potting bulbs, as much of the success in securing early flowering depends upon early forcing. Respecting the kinds, the common and cheap single varieties are the best. Pinks and Violets must also be looked to, the latter, both for potting and blooming, planted out in a frame or pit. It is a good time to set about the construction of store-pits. If proper accommodation is not already possessed, they should be excavated to the depth of 18 inches, and drained so that no water can enter; a few layers of turf and a framework of wood to receive the mats, lights, or whatever may be provided, will complete the necessary preparations. Let Scarlet and other Geraniums struck in the open ground be taken up and potted immediately they have made roots. They will require a close frame for a week or two, when they should be placed on a dry bottom in a southern exposure, to harden them for the winter. For the same purpose Verbenas, Petunias, &c., struck in pans and intended to be kept in them through the winter, should be placed in a similar situation, at the same time stopping the points of



the shoots. It should be a point to keep them as hardy as possible by fully exposing them until they are placed in their winter quarters.—W. KEANE.

### DOINGS OF THE LAST WEEK.

A WEEK of glorious summer weather has made some of the rather-behind-hand farmers smile at the impatience of those that carted the valuable grain rather early. What an untold blessing this last week's bright sun has been to the country! The heat, however, and the warm weather early in the season, are bringing in all our fruit at once. Unless in the case of those who shade, &c., there will be few October Peaches this season, and some of the wall-fruit is ripening before it is fully swelled. Several visitors have been complaining of the same, and saying they will have little out of doors, except Apples and Pears, by the end of the month. But then we are never satisfied; there is always an *if*, or a *but*, that prevents us acting out the cheerful philosophy that "sees the bright side of all things." If the fruit is coming in all at once, or rather too quickly, the flower gardens have improved after the rains, as if by magic, and though, perhaps, not so fresh-like, are now more full of bloom than they were in the third week of July.

Less than a fortnight ago the few gardeners we saw were hanging their heads with the most woe-begone aspect, and the wisest went about prophesying that September this year would see nothing but wrecks of flower-beds. If there was even a melancholy pleasure experienced, it was soon exhausted in the half-hearted congratulations that were showered on those whose employers had all betaken themselves to the north, to the moors, deer-stalking and fishing, and who, therefore, would see nothing of the wrecks they had left behind them. This very simple fact is not seldom forgotten. Some care nothing about their summer flowers after the middle of August, but cut and propagate, and lift without compunction. Even as respects labour, the matter is very different, when every bed must show its best until the frost comes.

#### KITCHEN GARDEN.

Trenched up part of the Onion ground, and planted out about half the space we intend for the earliest spring and summer Cabbages. We had a lot of rotting short grass mixed with refuse from the potting-bench, rotting weeds, which had not come to the seeding state, &c., which we dug in at the bottom of the trench. The material would be too rank for anything to grow in, but it will be decayed and sweet enough by the time the roots of the Cabbages reach it in the spring. The soil needed no enriching on the surface, otherwise we would have given a little very rotten manure on the surface, to encourage the young plants. This rough dunging at the bottom tells well on the Cabbage crop, which we generally allow to stand all the summer and the following winter, obtaining, after the first large-sized heads, several successions of young Cabbages until the stumps are pretty well decayed; and then the ground, as a general renovator, is treated for Celery, &c. The rains having battered the ground, ran the fork through borders and quarters of Coleworts, Spinach, young Onions, Lettuces, Cauliflowers, Broccoli, and will follow with a little manure water to all the grosser crops, as it will tell on them very perceptibly in this sunny weather, and when the next rain comes it will be nicely washed in. Turned the Onions preparatory to taking them under cover. We are so far sorry to say that the rains and the heat have so sent the necks next to out of sight, that it will be difficult to string them this season. They are in general best kept in strings, and they occupy less room than when stored on shelves, &c. We have frequently stated that hardly any amount of frost will injure Onions if they are kept dry. We have never known them keep better than when hung in open sheds.

But for the smell they leave behind them, we believe that few vegetables are more conducive to the health of working men, and therefore we always feel pleased to see a good bed of Onions in a working man's garden. We have seen a labourer slice off for his dinner from three to six huge Onions, and that with an evident relish that the rich man rarely enjoys when debating what he shall partake of among his costly dishes. A gentleman lately told us he almost envied the ploughboy discussing his lunch of bread and Onion and next to uncooked bacon as he swung on the field gate. "I am so often shut up, immersed in business, that I cannot take exercise enough to

get an appetite; or I go out for a day's shooting, and come home too fatigued and hungry to enjoy anything." Ah! there is a vast deal more of the equality of enjoyment in the different classes of society than is generally supposed. The law of compensation, which will pervade all classes, is a most beneficial one. The ploughboy on the gate eats with a charming relish, because he eats just when he needs it, and when nature is satisfied he eats not a bit more. There is nothing in the bread and the Onion, or the bread and next-to-raw bacon, to tempt him to indulge, or to excite a false appetite.

Thinned Tomato leaves, exposing the fruit to the sun, and backed up some frames of Cucumbers; gathered the most of the small ones for pickling, Gherkins, &c. Thinned out a few leaves of Vegetable Marrow to give them a little more light. When cooked, about the size of two hen's eggs put end to end, this is one of the most delicious vegetables. For ourselves it is generally too rich to be used above once a-year. We see them growing often in the poor man's garden; but they and the larger Gourds are generally allowed to grow on and ripen, and then they are hung up and used for soups, and for puddings, along with Apples, &c. Allow us to advise him to cook a lot when they are young, and then the plants will ripen quite as many. When of the young size above stated let them be washed clean, and then plunged in boiling water and boiled until, on trying with a fork, the points of the fork go freely into them, and then they will be done. Much of the delicacy will consist in keeping the water outside of the fruit. When boiled soft lift carefully on a plate, pour off any water that may come with them, cut each fruit open in halves, remove the soft centre, and then on the rest of the fruit dust a little pepper and salt, and with a very little fresh butter or dripping, you have a dish fit for a prince.

#### FRUIT GARDEN.

Much the same as in previous weeks. As already stated we suspect that much fine wall-fruit this season will have to be made into jams, jellies, preserves, and tarts, as it has come so soon in. Thinned and shortened the shoots of Apples and Pears as we got at them. Williams' Bon Chrétien Pears have been very fine, and, with a little management, that delicious Pear may be had good for a long time by very frequently picking the most forward first, and that also in a heavy crop, helps the more backward, and causes them to swell better. From a single tree we have frequently had this fine Pear for six weeks, when by one or two gatherings we should not have had it much more than six days. We find birds are beginning to pick many Pears that are yet pretty well as hard as stones, and as for flies we never knew them so numerous. The hot weather early in summer seemed to bring them out in myriads, they are even more troublesome than the earwigs. Bottles with sour beer and sugar will settle a good many of them, but the double hand-glass is as good a trap as any, with a plate of decayed fruit and fermenting liquid in the lower one, and a hole in the top to let them fly up and enter the upper one. Bushels of flies and wasps may thus be trapped. Wasps are now coming, though rather weak on the wing; we saw none during all the rainy time, and we presume many died then. The honey bee this season has attacked fruit, especially the smaller fruit, without mercy; we have seen half a dozen on a single Gooseberry. Plums have been a wonderful crop, but many of them are ripening early. Many trees would have been better of a good thinning. Such loads one year are apt to be followed by a thin crop the following year. Strawberry plants in pots have been well watered and exposed fully to the sun. A little soot was dusted on the surface of the soil in the pots, alike to enrich it, and to keep out worms. Watered Figs and late Vine-border, the latter most likely for the last time.

#### ORNAMENTAL DEPARTMENT.

Here, in addition to potting, regulating climbers to give more light, and preparing plants for being placed under protection, the chief work has been propagating Geraniums for next summer's display in the flower garden. We would have done it a few weeks earlier if we could have found time, but there are cases in which cleanliness, good order, and fine condition of the beds, must for the time obtain the first consideration. The neatness and good keeping, even of a part, required a great deal more time and labour than usual, owing to the warm rains, and the very hot weather succeeding. The grass grew with such rapidity as to be beyond the reach of our single-man mowing machines, for with such machines there is nothing gained by cutting when the grass is long. Under such circumstances we never met with grass worse to mow with

the scythe. Notwithstanding previous rolling the grass was as soft, as yielding, and as difficult to cut as so much pulpy cotton. We shall be glad when we can overtake all with the mowing machines again. When beds are to be dressed, regulated, picked, &c., it is often best to mow round them, as one clearing up does for all, and an extra sweeping in these times ought to be guarded against.

The general work has been so similar to previous weeks, that we shall here advert to two causes that greatly affect the beauty of flower-beds in the flower garden. 1. There is the custom of having numbers of cut flowers stuck all over the rooms of the mansion; it matters not though these from their position and surroundings are anything but ornamental. In some cases the gardener merely sends in a basket of flowers every day. In others, vases, baskets, tables, are sent to him to fill, and then a great amount of time is taken up with the filling of them, which is often little thought about. In either case the flower-beds will be robbed of their beauty, as it will be of no use cutting any except the very best. Cut even twenty trusses out of a good little bed of scarlet Geraniums, and you will not leave the bed as bright as before. Where the flower-beds are to be kept very nice, and yet lots of flowers must be had in-doors, we would advocate a reserve garden or a large mixed border being appropriated to this cutting purpose. We know that much unpleasantness arises from the seeming forgetfulness of the simple fact that the best flowers cannot be in the flower-beds and in the house at one and the same time. With such a border a lady could have the pleasure of helping herself without at all interfering with the pet beds of the gardener, and more satisfaction would be derived from the cut flowers. 2. If taken from the beds, the gardener himself, if possible, should always cut them. He will be very careful in making his selection so that the cut flowers shall be as little missed as possible; he will also go to the beds again and again rather than have too much cut at first. Most likely if he send some one else that has not reason to take a pride in the beds, he will have have made and have more of some things than he wants. Some ladies do this selecting work in fine weather themselves, and in general with great nicety. But if a gardener dare hardly trust some of his own men, what shall we say when house servants are allowed or commissioned to cut and gather such flowers as they please, and when they please? If such work were confined to a definite border it would matter less. True, as the flowers belong to the lady or gentleman employer, they respectively have a right to cut where they please, or to send others to do the same, even to cutting over all the flowers in a bed if it so please them. We have no desire in the least to question the right, but we do question the prudence and fitness of all such proceedings. We go farther, and say, unhesitatingly, that where the practice exists of anybody and everybody doing pretty well what they like in a garden, the gardener must be more than man if his interest and enthusiasm in his work do not gradually decline to zero point. We know that many otherwise kind and considerate employers have lost the services of good gardeners because they failed to recognise the very simple fact that to enable him to serve them efficiently, he must be as independent of all house servants as they are of him; in other words, that no more liberty should be taken by house servants in the garden than the gardener would think of using in the store-room, kitchen, or pantry.—R. F.

### TRADE CATALOGUES RECEIVED.

Jean Verschaffel, Rue de la Caverne, 43, Ghent, Belgium.—*Catalogue des Plantes et Prix-courant pour l'Automne, 1865; et Printemps et Eté, 1866.*

Quettier & Son, Ussy (Calvados), France.—*Trade Catalogue of Seedling and Transplanted Forest Trees and Conifers.*

Barr & Sugden's *Compendium of their Illustrated Autumnal Floral Guide.*

F. & A. Dickson & Sons, 106, Eastgate St., Chester.—*Catalogue of Select Dutch Flower Roots.*

Sutton & Sons, Reading.—*Catalogue of Bulbous Flower Roots, Geraniums, Fuchsias, and Fruit Trees, &c.*

R. Parker, Exotic Nursery, Tooting, Surrey.—*Catalogue of New and Rare Stove, Greenhouse, and Hardy Plants.*

Hooper & Co., Covent Garden Market.—*General Autumn Catalogue of Dutch, Cape, and other Flowering Bulbs.*

### COVENT GARDEN MARKET.—SEPTEMBER 9.

IMPORTATIONS have decreased generally, with the exception of Grapes, which are now coming from Holland and Jersey, as well as from France. The market continues to be heavily supplied, and trade is very dull.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... $\frac{1}{2}$ sieve	1	0 to 2	0	Melons..... each	2 0 to 5 0
Apricots..... doz.	0	0	0	Mulberries..... punnet	0 6 1 0
Cherries..... lb.	1	0	2	Nectarines..... doz.	0 9 6 0
Chestnuts..... bush.	0	0	0	Oranges..... 100	10 0 20 0
Currants, Red $\frac{1}{2}$ sieve	0	0	0	Peaches..... doz.	1 0 8 0
Black..... doz.	0	0	0	Pears (kitchen)..... doz.	1 0 1 6
Figs..... doz.	0	9	1 6	dessert..... doz.	1 0 2 0
Filberts..... lb.	0	9	1 0	Pine Apples..... l b.	3 0 6 0
Cobs..... doz.	1	0	0	Plums..... $\frac{1}{2}$ sieve	1 0 3 0
Gooseberries..... $\frac{1}{2}$ sieve	0	0	0	Quinces..... $\frac{1}{2}$ sieve	3 0 4 0
Grapes, Hambro..... lb.	1	6	4 0	Raspberries..... lb.	0 0 0 0
Muscats..... lb.	3	0	6 0	Strawberries..... lb.	0 0 0 0
Lemons..... 100	8	0	14 0	Walnuts..... bush	14 0 20 0

#### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	4 to 0	6	Leeks..... bunch	0 3 to 0 6
Asparagus..... bundle	0	0	0	Lettuce..... per score	0 9 1 6
Beans Broad..... bushel	0	0	0	Mushrooms..... pottle	1 6 2 6
Kidney..... doz	3	0	5 0	Must. & Cress, punnet	0 2 0 0
Beet, Red..... doz.	2	0	3 0	Onions..... doz, bunches	3 0 0 0
Broccoli..... bundle	0	0	0	pickling..... quart	0 0 6 0
Brns. Sprouts..... $\frac{1}{2}$ sieve	0	0	0	Parsley..... $\frac{1}{2}$ sieve	1 0 1 0
Cabbage..... doz.	0	9	1 6	Parsnips..... doz.	1 0 2 0
Capsicums..... 100	1	0	2 1 0	Peas..... quart	0 9 1 0
Carrots..... bunch	0	4	0 8	Potatoes..... bushel	2 6 4 0
Cauliflower..... doz.	3	0	6 0	Kidney..... doz.	3 0 4 0
Celery..... bundle	2	0	3 0	Radishes doz, bunches	0 6 1 0
Cucumbers..... each	0	4	0 8	Rhubarb..... bundle	0 0 0 0
pickling..... doz.	2	0	4 0	Savoy..... doz.	0 0 0 0
Endive..... score	2	0	3 0	Sea-kale..... basket	0 0 0 0
Fennel..... bunch	0	3	0 0	Spinach..... bushel	2 0 3 0
Garlic and Shallots, lb.	0	8	0 0	Tomatoes..... $\frac{1}{2}$ sieve	2 0 0 0
Herbs..... bunch	0	3	0 0	Turnips..... bunch	0 4 0 6
Horseradish .. bundle	2	6	4 0	Vegetable Marrows dz.	1 0 2 0

### TO CORRESPONDENTS.

FRUIT TREES FOR SOUTH-SOUTH-EAST WALL (H. J. N.).—Your wall will do well for Apricots, and the better kinds of Plums; and if the situation be not elevated, but is sheltered, Peaches and Nectarines might be grown tolerably upon it. The grubs feasting on the winter greens, as Savoy, &c., are what gardeners call "leather-coats," they being the larvæ of the daddy longlegs. They are unusually prevalent this season, and eat through the stems a little below the surface. There is no effectual remedy but to search for them and kill them. By all means as they are so numerous have them hand-picked and destroyed.

SCALE ON FRUIT TREES (*Sympathy*).—Spirit of turpentine is fatal alike to both insects and their eggs, and it will not injure the shoots or branches, but destroy every bud it touches, especially when applied after the buds begin to swell. Wash the trees after the leaves fall with Gishurst compound at the rate of 8 ozs. to the gallon of water, applying it with a brush, and brushing it well into every crack, hole, or crevice, and this so effectually as to dislodge the insects, taking care all the time not to injure the buds. Badly infested as your trees must be from the specimen sent, we would advise the trees to be well washed with water at 160° by means of a rather stiff or half-worn painter's brush, which will free the trees of the insects to a great extent, and then wash them with Gishurst early at the rate of 8 ozs. to the gallon of water, or sulphur and soft soap in equal quantities, 8 ozs. of each to a gallon of water in which 2 ozs. of the strongest tobacco has been steeped for twelve hours, and the water poured over it boiling, and 4 ozs. of gum arabic put in to dissolve after it became cool. The trees once or twice washed with water at 160°, as they may be infested, and then dressed with either of the above compositions will be free from the enemy to a great extent, and the process will only need repeating annually for a time to effect a cure. Turpentine, as stated in the "Gardener's Dictionary," is a certain cure for all attacks of the coccis or scale family; but it should only be applied to the branches, avoiding the buds.

TREES FOR SHELTERING A GARDEN (M.).—Of the trees named by you Robinia pseud-acacia is too spare in branches, too spreading, and altogether too large for the purpose. Plane trees are alike too large and spreading, and if it be Platanus occidentalis it needs sheltering rather than is calculated to shelter a small garden. Birch for the most part the least objectionable, and is mostly of small growth; it is dense in foliage, has numerous small twigs, and does very well in moist soils, but is less ornamental than many others. Ailanthus glandulosa is a tree that requires rather than affords protection. For protecting a small garden from cold winds there is no better shelter than a hedge 6 or 8 feet high of Thorn or Privet, and one of Beech 10 feet high is sufficient protection for any garden of small area. They take up less room and their roots extend less than trees, for the latter should be situated at such a distance that they do not root into, overhang, or shade what they are intended to shelter. Unless the trees can be so planted that their roots do not extend into the garden or their branches overhang it, hedges are the more desirable.

SCHIRAS GRAPE (T.).—We know of no synonyms of this Grape except those enumerated in Dr Hogg's "Fruit Manual." You could obtain three varieties of it from M. A. Leroy, Nurseryman, Angers, France. We do not know a fuller address to Mr. Heywood.

GAS TAR FOR GARDEN FRAME (Della).—We deprecate from experience using gas tar even outside a plant-house, and to apply it inside is only to enable it to be more speedily and more certainly destructive to the plants. A year must pass before they could be put safely into a gas-tar-painted structure.



**CALIFORNIAN PUMPS.**—The pump described in the last Number of the Journal, by Mr. Freek, of Norwich, has no resemblance to the one I spoke of in the same Number, mine being made of iron and brass, and forcing water to any reasonable height, as well as lifting it like a common pump. I dare say they are cheaper than other pumps. How their durability may be I do not yet know.—W. N. BAXTER, *Thornton-le-Moor*.

**EVERGREENS UNDER LARCH AND FIR TREES.** (*S. P.*).—In addition to Rhododendrons, which you find do so well under them, *Berberis Darwini*, *B. aquifolium*, or *Mahonia aquifolium*, and *B. repens* would do equally well, also *Laurestinus*, if not too much shaded and exposed to cutting winds, and *Aucuba japonica* and *Skimmia japonica*. Laurels do fairly, Yew, Box, and Holly moderately well, Butcher's Broom excellently, and, better than anything, Vines or Periwinkles. Ivy, to carpet the ground and clothe the trunks of trees, is good, enlivened with Snowdrops, Winter Aconites, Primroses, Harebells, and some of the commoner kinds of Ferns.

**VINE FOR GREENHOUSE** (*New Subscriber*).—We suppose the nurseryman meant the "Finger Grape," if so it is the Cornishon blanc, and worthless. Have three Black Hamburghs and two Lady Downes. An Apricot might succeed on a trellis against the glass end of the house. Figs would not prosper under the Vines.

**PROPAGATING-BEDS AND MELON-BEDS IN A HOTHOUSE** (*A. Y. Z.*).—The most economical plan would be to surround your pipes at the bottom of the beds with brickbats, clinkers, &c. to the depth of a foot, and then some clean-washed gravel, and then the soil for Melons and Cucumbers, and what you like best for the propagating-bed. A more perfect way would be—have the pipes in a chamber, the chamber covered with slate; but we like the rough mode rather the better. In placing on the soil, leave some upright drain pipes, with the lower end among the rubble, so as to let down water when desirable without soaking the soil. If you keep

your six pipes for bottom heat—that is, have no slides to let the heat out then you will require two pipes all round the house for top heat instead of one. A specimen of Mr. Beard's houses may be seen at the Botanic Gardens, Bury St. Edmunds; also at Mr. Sanders', Victoria Works, Bury St. Edmunds. You have evidently missed the advertisement that appeared on the 15th of August. The volume is out of print, but all the Numbers can be obtained with the exception of five.

**BOILER FOR CUCUMBER AND MELON FRAME** (*E. S. B.*).—If you mean the boiler to do no more than the 21 feet of pit, then a small saddle-back or conical one will answer your purpose. Any bricklayer that can set a copper properly, will also set a boiler to the best advantage. To have Cucumbers and Melons early, you would require two four-inch pipes for top heat, and two for bottom heat. We have two three-inch pipes, but they are not enough for early work. The simplest plan would be to take two pipes along for surface heat, and return them in the chamber for bottom heat. Have the top of your boiler below the level of the lowest pipes in the chamber, and there will be draught to burn anything.

**VINES SHRIVELLING** (*Durham*).—You do not say what the size of your lights is, as, if from 2 to 3 feet in length, the back and front air should have been sufficient, more especially if the back air was given early. There could be no harm in having some square holes in the back wall, if you are at all doubtful as to the quantity of air. Most cases of such shrivelling that have come under our notice have been owing to the leaves being within a few inches of large squares of glass, and neglecting to give air early enough in the morning, so that something like scalding took place. In such hot sunny days as we have lately had, sprinkling the floor with water to neutralise the dryness would also be of benefit.

**NAMES OF PLANTS** (*A. E.*).—1, *Spiraea sorbifolia*; 2, *Viburnum opulus* (*Guelders Rose*); 3, *Alnus glutinosa*. (*W.W.*).—*Tamarix gallica*, or *Tamarisk*. (*June*).—1, Leaf of an Orchid; 2, *Cyanotis vittata*; 3, *Begonia fuchsoides*.

### METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 9th.

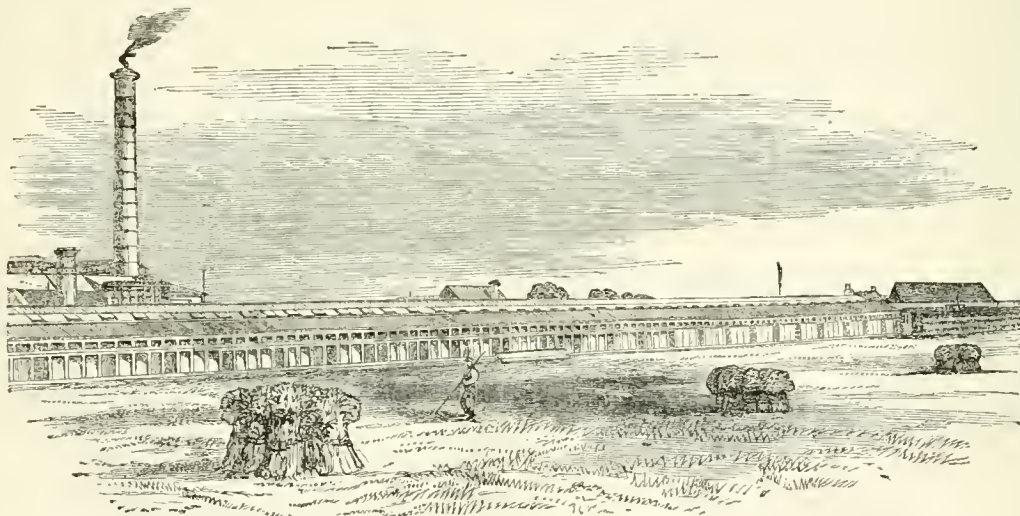
DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 3	30.179	30.121	81	47	65	62½	S.W.	.00	Slight fog; very fine with hot sun; fine at night.
Mon... 4	30.078	30.172	82	44	65	63	S.	.00	Very fine, hot, and sultry; very fine throughout.
Tues. . 5	30.147	30.106	81	44	65	63	W.	.00	Foggy with heavy dew; very hot sun; very fine.
Wed. . . 6	30.163	30.062	80	49	65	63	S.W.	.00	Slight fog, heavy dew, hot sun, dry air; exceedingly fine.
Thurs. . 7	30.089	29.956	85	56	65	63	S.W.	.00	Slight fog; heavy dew; very hot; very fine.
Fri. . . 8	29.925	29.884	86	56	65½	64	S.	.10	Heavy dew; clear, very hot with dry air, thunder, lightning, heavy
Sat. . . 9	30.063	30.028	76	55	66	64	S.W.	.00	Overcast; clear sky; very fine throughout. [rain in the night.
Mean..	30.085	30.032	81.57	50.14	65.21	63.31	....	0.10	

### POULTRY, BEE, and HOUSEHOLD CHRONICLE.

#### THE NATIONAL POULTRY COMPANY.

BETWEEN the Bromley and Bickley stations on the London, Chatham, and Dover Railway, the traveller perceives the build-

This land is laid out for six similar buildings running from south to north. Between each of the buildings is a market garden 60 feet wide, and about a thousand pyramid fruit trees will form a border to the vegetable garden. On the south, and parallel with the Railway, a range of buildings upwards of 500 feet long will serve as inward and outward offices, stores, manager's residence, and labourers' dwellings. Between this



ing of which the above is a representation. It is 350 feet long and 20 feet wide, of peculiar construction, and erected on a piece of land of about six acres. The site is bordered on the south by the Railway, on the east by the Bromley Gasworks, on the west by extensive hop plantations, and on the north is sheltered by high trees on the estate of Coles Child, Esq., of the Palace.

range of buildings and the poultry-homes the space is divided into several fore courts, in which chickens of a certain age, and classified according to sex, will be left to roam. The inward and outward gates will be formed by two towers surmounted by water-tanks, to obtain high pressure service for the poultry-homes and market garden. The north side of the land is

enclosed by a range of sheds about 500 feet long, and is called the farmyard; the space in front of these sheds will be divided into separate courts, for the proper classification of fowls. Here are also the manure-pits, drained into liquid manure-pits in front of each section of vegetable land, and ponds which are supplied with the rain water drained from the buildings. Behind the sheds are pig-styes, and vermin nurseries. The sheds will be used for preparing the food, as stores, and as killing, plucking, and dressing-rooms for poultry.

In this establishment is about to be tested whether poultry can be raised, partially artificially, on a very extensive scale, and we hope soon to furnish more details.

Those who have advocated the rearing of poultry in large quantities, have frequently referred to the extensive establishment of "M. de Soras," as proving that such a wholesale rearing was not only possible, but profitable. The condemnments of such rearing met the evidence by denying its existence, and roundly asserting that "M. de Soras" is a mythical personage. Mr. Geyelin has settled the dispute, by proving that each body of disputants is right, and each party wrong.

There is no "M. de Soras," but there is a vast poultry-rearing establishment. It is at Angy, near Mony, Beavais, in Picardy, and the proprietor is M. Manoury. Mr. Geyelin has visited the establishment, and says—

"I was received with every courtesy, and informed that he knew of no such name as M. de Soras, nor of any establishment of the kind, but that he devoted his time to rearing some 5000 head of poultry per annum; he neither fed them on horse flesh, nor supplied the markets of Paris, that he sold none but pure breeds, and those to gentlemen and fancy poultry dealers; nevertheless, that his system of hatching, rearing, and feeding was so different to that adopted by others, that it might possibly have given rise to those exaggerated reports; after which he conducted me over his establishment, and explained most minutely the system he has adopted. I have also visited all those places in France so justly famed for their poultry, and from which those celebrated breeds of Houdan, La Flèche, and Crève Cœur are obtained, where also I met with the utmost courtesy in my inquiries, though I had been informed that the farmers never explained or showed their system of poultry-rearing to any one, which possibly may be true as regards their countrymen."

Mr. Geyelin then details what he saw in France, of "natural and artificial incubation," from which details we will make one short extract.

"Amongst some places I visited, in company with two of your shareholders, may be mentioned the farm of Madame La Marquise de la Briffe, Château de Neuville, Gambais, near Houdan, where we observed twelve Turkeys hatching at the same time; here, also, we witnessed the rearing and fattening, which will be alluded to hereafter. In another place, that of Mr. Auché, of Gambais, a hatcher by trade, we observed sixty Turkeys hatching at the same time; and we were informed that

during winter and early spring he had sometimes upwards of one hundred hatching at the same time, and that each Turkey continued hatching for at least three months. At the farm of Mr. Louis Mary, at St. Julien de Faucon, near Lizienx, in Calvados, I saw a Turkey that was then sitting, and had been so upwards of six months, and, as I considered it rather cruel, the hatcher, to prove the contrary, took her off the nest, and put her in the meadow, and also removed the eggs; the Turkey, however, to my surprise, returned immediately to her nest and called in a most plaintive voice for her eggs; then some eggs were placed in a corner of the box, which she instantly drew under her with her beak, and seemed quite delighted. Moreover, I was informed that it was of great economical advantage to employ Turkeys to hatch, as they eat very little, and get very fat in their state of confinement, and, therefore, fit for the market any day."

We have not space to devote to the very useful and interesting particulars Mr. Geyelin gathered relative to fattening, feeding, killing, and dressing poultry in France, but we must extract what he says on

#### "UTILISING THE WASTE PRODUCTS.

"*Poultry Manure.*—In France, as well as in our own country, most eminent chemists have proved by analysis that poultry manure is a most valuable fertiliser, and yet for a want of a proper system in housing poultry, it has as yet not been rendered available to rural economy. The celebrated Vanquelin says that when the value of manures is considered in relation to the amount of azote they contain, the poultry manure is one of the most active stimulants; and when, as a means of comparison, the following manures are taken, in parts of 1000 it will be found that—

Horse Manure contains .....	4.0 parts of azote.
Guano as imported .....	49.7 do.
Guano, when sifted of vegetables and stones .....	53.9 do.
Poultry Manure .....	83.0 do.

"In France, as in England, the poultry manure is left to accumulate in the poultry-homes, to the loss of farmers, and to the detriment of the health of fowls.

"The Feathers are carefully collected and sorted, and when well dried sold to dealers.

"The Intestines are boiled, the fat skimmed off, which is sold separate; the intestines are then minced as food for poultry, and the liquid is used for feeding pigs.

"The Combs and Kidneys are sold to pastrycooks—the first for decorating, and the latter for flavouring pies.

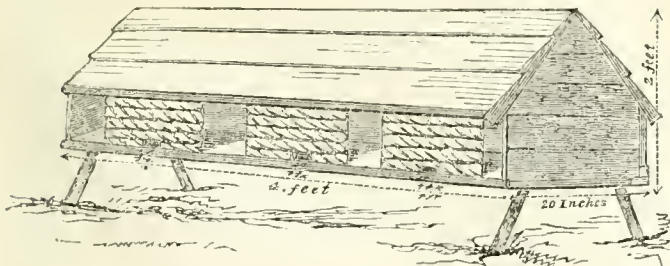
"The Head, Neck, and Feet are sold to hotels, restaurants, &c., for flavouring sauces, or boiled down to make chicken jelly."

The foregoing are extracted from Mr. Geyelin's "Report to the Poultry and Egg Company," whose establishment at Bromley, Kent, is now completed, and of which Mr. Geyelin is the manager. That report is highly interesting, and will gratify any lover of poultry who peruses it.

### A GOOD BEE-HOUSE.

I HAVE sent a sketch of my bee-house, which is the best covering for bees that I can find, and very convenient for supering, &c. It is made of half-inch boards, except the floor, which

screwed to the floor, as shown by the sketch of the end. As to flat-square straw-hives I intend making some in readiness for next spring. My plan is, to make a square frame, work the



is 1½ inch thick. It is closed-in all round except the front, 7 inches of which is left open. The ends of the front part of the roof are fixed, but the back board and back part of the roof are moveable. The back board is kept up by two hasps

straw round it, and then screw a board on to the frame for the top. Information as to the size which they ought to be (inside measure), would oblige—A BUCKS BEE-KEEPER.

[Mr. Woodbury's frame-hives are 14½ inches square by



9 inches deep inside, and the bar-hives 13 inches square by 9 inches deep. In either case a space of three-eighths of an inch should be left between the top of the frames, or bars, and the crown-board.]

## THE KEIGHLEY POULTRY EXHIBITION.

SEPTEMBER 1<sup>ST</sup>.

FOR many years past the Keighley show of poultry has proved itself an object of great interest to the exhibitors of poultry and Pigeons, and we are gratified in being able to state that the show just closed has been by far the most successful of any held by this Committee. The entries, as to numbers, proved not only far in advance of those in previous years, but also were attended throughout the classes generally with improvement of quality that evinces the very opposite of decadence as to our poultry exhibitions. This result is most satisfactory; and when we mention the fact that the weather was fortunately most propitious, our readers will readily imagine that the amount received for admission on this occasion was far in advance of that of prior meetings. The fact is, that scarcely an indifferent pen could be pointed out among the many exhibited, and that although mounting-time is now general, there were very few empty pens.

The Keighley show this year was undoubtedly the best we have seen for many years past in all the varieties of *Hamburghs*, so much so, that the excellence displayed in these classes was a theme of general admiration and congratulation among the poultry-breeders assembled. We noticed, also, some particularly good *Spanish* chickens, and the Dark-feathered *Brahmas* were equally good. Some extraordinarily good *Game* chickens were also shown, of which there were several pens, but having been "dubbed" recently, they did not show to the same advantage that they will do a month or two hence. The *Polands* of all kinds were most praiseworthy, and a pen of the now-so-rarely-seen perfectly white ones, were well shown. Not a single Sebright was present, nor was there any new variety exhibited. It was, in fact, a matter of conversation among those assembled, how very rarely we see any new breed of late years, to what were introduced some time back.

The *Aylesbury* and *Rouen Ducks* were most excellent, and so were the *Buenos Ayrean* variety. Some very excellent *Game Bantams* (Black-breasted Reds) were shown, and also some capital *Brown Reds*; the latter, however, were a little too large for competition, though excellent specimens for brood stock.

The *Pigeon* entries were unusually large, and a very close competition ensued, causing a great amount of public interest, far greater than at any previous meeting of the Keighley Society. Under these circumstances, no doubt, this has proved one of the most encouraging meetings held at Keighley.

**GAME.**—Cup, H. Beldon, Bingley. Highly Commended, J. Fletcher, Stoneclough. Commended, E. Aykroyd, Bradford; A. Briggs, Rawden. *Chickens*.—Cup, R. Tate, Leeds. Second, J. Fletcher. Third, R. Payne, Brierfield, Burnley. Highly Commended, T. Hartley, Gomersall.

**COCHIN-CHINA** (Any colour).—First, H. Beldon. Second, C. Sidgwick, Riddlesden Hall. Commended, J. Jackson. *Chickens*.—First and Second, C. Sidgwick. Highly Commended, J. Jackson; J. Duxbury, Keighley.

**SPANISH** (Black).—First and Second, H. Beldon. Commended, E. Brown, Sheffield. *Chickens*.—First, E. Brown. Second, T. Greenwood, Dewsbury. Highly Commended, S. Schofield, Heckmondwike. Commended, Messrs. Birch & Boulter, Sheffield.

**CHITTEPRAT**.—First, J. Dixon, Bradford. Second, A. K. Wood, Kendal. Highly Commended, H. Beldon. *Chickens*.—First, J. Dixon. Second, H. Beldon. Highly Commended, H. Smith, Morton Banks; T. Stell, Keighley. D. Ilingworth, Burnley. Commended, R. Longbottom, Bugley; H. Walton, Cowling.

**PHEASANT** (Golden).—First, H. Beldon. Second, R. Tate. Highly Commended, A. K. Wood; W. Driver, Bank House. *Chickens*.—First, H. Beldon. Second, J. Hardwick, Keighley.

**HAMBURGH** (Golden-pencilled).—First, J. Dixon. Second, R. Hemingway. Highly Commended, S. Smith, Northwain. Commended, H. Beldon. *Chickens*.—First, S. Smith. Second, R. Hemingway. Highly Commended, J. Dixon. Commended, J. G. Park, Low Hall, Whitehaven; S. Smith.

**PHEASANT** (Silver).—First, A. K. Wood. Second, J. Newton, Silsden. Highly Commended, H. Beldon. Commended, J. G. Park. *Chickens*.—First, C. Cowburn, Leeds. Second, T. Berry, Sutton. Highly Commended, R. Barret, Sutton; T. Fawcett, Baildon. Commended, R. Barret; T. Parker, Utley; S. Smith.

**PHEASANT** (Black).—First, C. Sidgwick. Second, W. Mand, Bingley. Highly Commended, J. Dixon. *Chickens*.—First and Second, C. Sidgwick. Highly Commended, H. Beldon; J. Hargreaves, Skipton; S. Butterfield, Keighley.

**GOLDEN OR SILVER PHEASANT** (Polands).—First and Second, H. Beldon. *Chickens*.—First, H. Bowker, Keighley. Second, T. E. Kell, Wetherby. Highly Commended, H. Gornal, Farley.

**DORKING**.—First, T. Briden, Earby. Second, H. Beldon. *Chickens*.—First, T. E. Kell. Second, W. Bland, Peak Rydding.

**GAME** (Red).—First, J. Hodgson, Bowling. Second, R. Hemingway. Highly Commended, F. Walker, Silsden; T. Dyson, Halifax. *Chickens*.—First, R. Payne, Burnley. Second, W. Spencer, Haworth. Highly Commended, J. Spencer, Queensbury. Commended, R. Tate; W. Gamon, Thorton-le-Moors.

**GAME** (Any other variety).—First, E. Aykroyd, Bradford. Second, W. Bealey, Scholes. *Chickens*.—First, T. Hartley. Second, G. Noble, Staincliffe, Dewsbury. Commended, T. Dyson, Halifax.

**POLANDS** (White-crested).—First and Second, J. Smith, Keighley. *Chickens*.—First and Second, J. Smith.

**GAME BANTAM** (Black or White).—First, A. Briggs, Rawden. Second,

R. Tate. Highly Commended, G. Noble, Dewsbury; S. Schofield. *Chickens*.—First, G. Noble. Second, R. Tate. Highly Commended, E. Aykroyd. Commended, J. Wade, Silsden.

**ANY OTHER DISTINCT BREED**.—First and Second, H. Beldon (White *Polands* and Dark *Brahmas*. *Chickens*.—First, E. Greenwood, Overtown, Burnley (Dark *Brahma*). Second, W. Spencer, Haworth (Dark *Brahma*). *Ducks* (Rouen).—First, H. Beldon. Second, W. Gamon. Highly Commended, J. Wade.

*Ducks* (Aylesbury).—Prize, H. Beldon.

*Ducks* (Black Indian).—First and Second, J. Hargreaves.

*Ducklings*.—First, J. Newton (Aylesbury). Second, A. Smith, Silsden. (Rouen).

**GEESSE**.—Prize, R. Tate (Grey).

**PIGEONS**.—*Cock Pouter* or *Cropper*.—First, C. Cole, Bowling. Second, J. Thackray, York. Commended, C. Cole; E. Brown, Sheffield. *Hen Pouter* or *Cropper*.—First and Second, C. Cole. Commended, J. Thackray. *Cock Carrier*.—First, H. Beldon. Second, C. Cole. Commended, J. Thackray; J. Firth, Dewsbury; C. Cowburn, Leeds. *Hen Carrier*.—First, J. Thackray. Second, C. Cole. Commended, C. Cowburn. *Almond Tumblers*.—First, H. Yardley, Birmingham. Second, C. Cole. Commended, E. Brown. *Balds*, *Beards* or *Mottled Tumblers*.—First, C. Cole. Second, J. Dunderdale, Keighley. Commended, J. Lister, Keighley; H. Yardley. *Oaks*.—First, H. Yardley. Second, C. Cowburn. *Turbits*.—First, J. Thackray. Second, H. Yardley. Commended, J. Thackray. *Jacobins*.—First, C. Cole. Second, J. Thompson, Bingley. Commended, C. Cole. *Rantails*.—First, H. Yardley. Second, J. Thackray. *Barbs*.—First, C. Cole. Second, H. Yardley. *Dragons*.—Second, J. Thompson. Commended, B. B. Laycock, Keighley; J. Parker, Oakworth Hall. *Trumpeters*.—First, J. Thompson. Second, H. Yardley. *Maggies*.—First, H. Beldon. Second, H. Yardley. *Archangels*.—First, H. Yardley. Second, C. Cole. Commended, H. Yardley. *Any other breed*.—First, H. Yardley. Second, J. Thackray. Commended, G. Mawson, Carlton; H. Yardley.

Mr. Edward Hewitt, of Sparkbrook, Birmingham, was the Judge of Poultry; and Messrs. H. Smith, of Skipton, and W. Cannan, of Bradford, officiated for the Pigeon classes.

## LONGRIDGE (NEAR PRESTON) DISTRICT AGRICULTURAL SOCIETY.

THE third annual show meeting in connection with this Society was held at Longridge, on Thursday, the 31<sup>st</sup> nit. Beneath are the awards for poultry:—

**SINGLE GAME COCK**.—First, R. Parkinson. Second, T. Wareing. Third, B. Walmsley.

**DORKING** (White, Speckled or Grey).—First, J. Robinson. Second, J. Pindar.

**SPANISH**.—First, T. Wareing. Second, J. Pindar.

**GAME FOWLS** (Any variety).—First, R. Parkinson. Second, J. Robinson. **COCHIN CHINA**.—First, J. Wood. Second, J. Robinson.

**HAMBERGH** (Golden-pencilled).—First, J. Robinson. Second, W. Bee.

**HAMBERGH** (Silver-pencilled).—First, J. Robinson. Second, E. Gardner.

**HAMBERGH** (Golden-spangled).—First, J. Robinson. Second, T. Wareing.

**HAMBERGH** (Silver-spangled).—First, J. Robinson. Second, T. Wareing.

**POLANDS** (Any variety).—First and Second, J. King.

**BANTAMS** (Any variety).—First, T. Kenyon. Second, T. Wareing. Commended, M. Turner.

**CHICKENS** (Any variety).—First, J. Wood. Second, J. Pindar.

*Ducks* (Aylesbury).—First, J. Robinson. Second, Executors of the late G. Whittle.

*Ducks* (Rouen).—First, J. Robinson. Second, T. Wareing.

**GEESSE**.—First, W. Bee. Second, G. Longworth.

**TURKEYS**.—Prize, J. Wahe.

## THE LOUGHBOROUGH POULTRY EXHIBITION.

THE Poultry Exhibition in connection with the Sparkenhoe Farmers' Club, was this year held at Loughborough. At an early hour on Wednesday last, a most refreshing breeze and brilliant sunshine angared well for a truly enjoyable day at the Poultry Show. Trip-tickets by railway, carriages, both private and public, each tended to increase the numbers, whilst crowds of pedestrians added so greatly to the hosts of visitors, that many thousands must have been present in a very brief period after opening the gates for public admission. The Show took place in the grounds of H. Warner, Esq., of The Elms, Loughborough, nor could a more suitable place for such a meeting be imagined, being park-like in character, and studded abundantly with trees arrived at maturity. Every one seemed pleased with their visit, and numbers who had never previously seen a poultry show, acknowledged that they had not anticipated in the slightest degree the treat that was in store for them. We cannot omit the simple mention, how much the popularity attained by this Show has arisen entirely from the exertions of its Committee from year to year, to provide not only for the comfort of the specimens exhibited, but also for the convenience and pleasure of every visitor. Even had unfavourable weather unhappily been the issue, not a bird nor visitor need have suffered, the most ample provision against rain being provided for all. This is as it should be, and another picturesque arrangement was, four large garden chairs were placed beneath each of the very many well-grown trees, thus affording shade and a rest to numbers of wearied pleasure-seekers as time wore on. What a pleasing contrast to numbers of instances we could adduce, where not a single stool was even available to the fatigued among the fair sex, and Committees would do well to become copyists in these little inexpensive particulars, as tending more than is by many parties supposed to enlist popular sympathies for future meetings.



The Show proved good, though, as any poultry fancier too well knows, old birds have as yet scarcely recovered their plumage. A great feature in the Sparkenhoe Farmers' Club is this, the offer of a five-guinea cup to be awarded to the three best pens of poultry of any variety; in fact, it is alike available for every breed, without restriction or limit of any kind, except the simple one, that the three pens must be different varieties; and a second prize of £2 is given to the second best also. Every one knows the extreme difficulty of selecting three perfect pens from any one yard, more particularly when wanted just at moulting-time; still it is quite as fair for one as another among competitors, and lucky is the man who finds his birds in good condition at the proper time. Five lots were entered, but one set of pens remained empty. We have seen the competition in this class far more severe at former meetings than on the present occasion, not a single competitor showing three perfect pens. To a superficial observer the class would appear at a first glance far superior to what it really proved to be on a close examination. One party showed three splendid pens of *Game* chickens particularly well grown—viz., Black-breasted Reds, Brown Reds, and Duckwings, but the two pullets in the first-named variety were entirely "duck-footed," which at once gave a quietus to their hopes of success. A second competitor exhibited some Grey *Dorkings* with white legs but black feet, the very base of the legs being also of the same objectionable hue. This fatal fault immediately upset their chance of prize-taking. The trial now rested exclusively between two lots only, one composed of Duckwings, Red Piles, and Brown Red *Game* fowls; the other competitor showing Buff *Cochins*, *Spanish*, and White *Cochins*. Among the *Game* fowls just alluded to, was a Duckwing hen, purposely despoiled of her ear-lobes, most probably because they had been previously white. The Red Piles did not match in the colour of the legs, and the Brown Red cock had a twisted spur. The cup-winners were a pen of extraordinarily well-grown Buff *Cochin* chickens, far beyond anything at present exhibited this season: an exceedingly good pen of Black *Spanish*, but out of condition; and a pen of first-rate White *Cochins*, but the cock was evidently quite a martyr to "elephantiasis," a kind of leprosy, that can be cured by strong remedies, patience, and perseverance, but still difficult to eradicate. It will be seen, therefore, that the competition this year for the cup was neither numerous, nor what it should be as to excellence; but, no doubt, the weakness of the class this year will enlist a strong competition on the next occasion, from many who deeply regretted they had not entered. To such we can only apply the old adage, "faint hearts are never successful." Some very good Grey *Dorkings* were exhibited, but we must remind exhibitors, that malformations are always fatal to success in poultry, either for exhibition or breeding, and that black feet in *Dorkings* is quite a novel fault, but one that all other good qualities cannot palliate. The White *Dorkings* were so indifferent as to cause every prize to be withheld. Some splendid Chinese Silver *Pheasants* were shown, but no entry whatever took place for the Chinese Golden *Pheasant* prizes.

The *Geese*, White *Aylesbury*, and *Rouen Ducks* were good, whilst a pen of really good White *Call Ducks* were well shown.

In *Pigeons*, no doubt, the *Powters*, *Carriers*, and *Lahores* were the cream of the varieties shown.

We were pleased to find the poultry and *Pigeons* shown in such good health, the late heavy rains having proved most destructive in many districts within the few weeks last past.

A prize, value £5 5s., for the three best pens of poultry, of any variety, exhibited by and the property of one person.—Silver cup, H. Yardley, Market Hall, Birmingham (Buff *Cochins*, Black *Spanish*, and White *Cochins*). Second, Sir St. G. Gore, Bart., Wirksworth (Black-breasted, Red Pile, and Duckwing *Game*).

*SPANISH*.—First, M. Brown, Melton Mowbray. Second, W. T. Everard, Ashby-de-la-Zouch.

*DORKING* (Coloured).—First, W. T. Everard, Ashby-de-la-Zouch. Second, H. Warner, Loughborough. Commended, W. R. Dick, Derby.

*COCHIN-CHINA*.—First, M. Brown, Melton Mowbray. Second, Mrs. Wolferstan, Tamworth.

*GAME* (White, Piles, and Light Colours).—First, Sir St. G. Gore, Bart., Wirksworth. Second, G. Bott, Atherstone. Highly Commended, W. T. Everard, Ashby-de-la-Zouch; G. Bott, Atherstone.

*GAME* (Red, and other Dark Colours).—First, Sir St. G. Gore, Bart., Wirksworth. Second, J. Tyler, Loughborough. Commended, G. Bott, Atherstone; G. Heafford, Loughborough.

*HAMBURG* (Gold-spangled).—First, H. E. Emberlin, Leicester. Second, Sir St. G. Gore, Bart., Wirksworth.

*HAMBURG* (Gold-pencilled).—Prize, Sir St. G. Gore, Bart., Wirksworth.

*HAMBURG* (Silver-spangled).—Prize, Sir St. G. Gore, Bart.

*HAMBURG* (Silver-pencilled).—First, Sir St. G. Gore, Bart. Second, J. Meredith, Atherstone.

ANY OTHER DISTINCT BREED.—First and Second, J. Meredith, Atherstone (Silks and Andalusians).

*PHASANTS* (Silver).—Prize, J. Buck, Leicester.

*DUCKS* (White *Aylesbury*).—First, Sir St. G. Gore, Bart., Wirksworth. Second, H. E. Emberlin, Leicester. Highly Commended, W. T. Everard, Ashby-de-la-Zouch; W. & H. Gill, Loughborough.

*DUCKS* (Any other Variety).—First, J. Johnson, Leicester (White *Calls*). Second, W. & H. Gill, Loughborough (Rouens). Highly Commended, W. Mosely, Loughborough (Buenos Ayrean); W. T. Everard, Ashby-de-la-Zouch (Rouens).

*GESE*.—First, Mrs. Wolferstan, Tamworth. Second, J. Garton, Loughborough.

*TURKEYS*.—First, J. Johnson, Leicester. Second, Mrs. A. Guy, Grantham. Highly Commended, C. W. Packe, M.P., Loughborough; J. Johnson, Leicester.

*GUINEA FOWLS*.—First and Second, J. Johnson, Leicester. Highly Commended, W. Green, Ashby-de-la-Zouch.

*BANTAMS*.—First, Sir St. G. Gore, Bart., Wirksworth. Second, H. E. Emberlin, Leicester. Highly Commended, W. Draycott, Leicester.

*GAME FOWLS*.—Prize, H. Warner, Loughborough. Highly Commended, W. T. Everard, Ashby-de-la-Zouch.

*DORKINGS*.—Prize, H. Warner, Loughborough.

*HAMBURGS*.—Prize, W. & H. Gill, Loughborough.

ANY OTHER BREED.—Prize, M. Brown, Melton Mowbray (Spanish).

*PIGEONS*.—*Powters* or *Croppers*.—First, H. E. Emberlin, Leicester. Second, H. Yardley, Birmingham. Highly Commended, H. E. Emberlin.

*CARRIERS*.—First, H. Yardley, Birmingham. Second, W. Draycott, Leicester. *TUMBLERS*.—First and Second, H. Yardley. *FANTAILS*.—First, H. Yardley. Second, W. Draycott, Leicester. Commended, H. Yardley.

Any other distinct variety.—First and Second, H. Yardley (Lahores and Brunsicks).

*RABBITS*.—*Heaviest Weight*.—First, A. Houghton, Melton Mowbray. Second, W. Draycott, Leicester. Highly Commended, J. N. Dixon, Commended, G. Jones, Birmingham. *Length of Ear*.—First, G. Jones, Second, J. N. Dixon. Commended, W. Draycott. Any other kind.—First, H. Warner, Loughborough. Second, G. Jones. Highly Commended, H. Warner. Commended, W. Draycott. *Extra*.—Prize, —

—Cayless, Loughborough (Angoras).

The Judges were Mr. Edward Hewitt, of Eden Cottage, Sparkbrook, Birmingham; and Mr. Henry Marshall, of Cropwell Butler, Bingham, Notts.

## NOTES ON PIGEONS.

### THE POWTER.

I AM not surprised that the *Powter* has always been a favourite with fanciers, particularly with those whose callings or health keep them much at home; for he is a sociable bird, more so than any other *Pigeon*. Then he is the most important-looking and acting personage of the whole tribe. Others merely walk and fly; but he struts, jumps, and, man-like, disdains looking to the ground, and is as perpendicular in carriage as others are horizontal. Then his long legs are so different to the mere little feet of the others. Hence he stands apart as an individual—he can be classed with none. Like King Richard he may say, "I am myself alone." The *Powter* has great power over other *Pigeons*: whether it is by the exercise of an attractive nature or mere bullying I cannot determine, but so it is. If you keep, say, but one pair among any number of other varieties, the cock will be the recognised head of the fraternity—all will yield to him, and follow his lead as to what parts of the roof to bask upon. If he dies or is sent away it is odd to mark how he is missed; the rest are a mere number of small birds; they scatter to other parts of the roof, seem uneasy—like the French, they delight in an emperor.

Inside the house the *Powter* shows off well. On the landing-board he is in supreme happiness, and struts about to his own entire satisfaction. Along the roof he parades; in all places he seems to say, "Look at me! look at me! What a fine fellow I am!" And even on the wing he is so loud and demonstrative that one is fain to look up at him.

To see *Powters* to perfection you should keep *Tumblers* with them. Each kind sets off the other. The tall *Powter* looks taller beside the short plump *Tumbler*, and the compact and symmetrical *Tumbler* looks doubly compact beside the slim *Powter*. We judge of everything by comparison: it is well, then, to have the means of judging at hand.

Much as I admire *Powters*, I must own that *Powter-love* is an acquired love. Thus ladies, the best judges of appearance, always pronounce them "ugly,"—i. e., provided the said ladies are not fanciers, while they always praise *Jacobins* as "loves, pets, darlings." I would not overpraise any bird, but give each variety its proper place. Thus I would not dethrone the all-graceful *Carrier* in spite of the telling ways of the *Powter*. The *Carrier* is marked by nature as superior to all other *Pigeons*—he is their rightful king; the *Powter*, his self-important lord chamberlain, who is nothing unless he is pompous. Thus, frighten him, down at once goes his wind-bag, and the scared wretch becomes an ill-shaped Runt, so unlike the *Carrier*, who, if you frighten him, looks only the more graceful, and gives an indignant snort. Neither, again, would I forget the minute beauties of the diminutive *Almond Tumbler*, though he does look a little like one of a degenerate and therefore enfeebled race—a sort of modern Athenian.

There is, perhaps, another reason besides his sociality, his amusing pomposity, and his remarkable tameness, even impudence, which has made the *Powter* a favourite with English fanciers—viz., the difficulty of breeding good ones, and Englishmen like whatever gives them trouble to get perfect. Who has seen many first-rate *Powters*? I have not seen twenty-five in as many years. This one would be good, but the half-moon is wanting; that is a long bird, but loose-winded; that overblows himself, and loses all self-command. This has too much



white, that too little; this is well-shaped but short, that is ill-shaped though long.

Then as to breeding. Now that it is pretty well understood that they will raise their young if fed on beans there is less trouble than formerly; and I will also add from experience they will equally well rear their young if fed entirely upon Indian corn, but not if peas be mixed with it. Still, after all, good Powters ought to fetch a high price, as so very few come up to the standard.

Next as to colour. In spite of all that has been written in favour of yellow, red, and black pied, I think blue pied is best of all. I believe it to be the original colour, and therefore also the best. Mr. Eaton, who knows Pigeons well, has in his coloured plates of perfect birds figured his Powder as a blue bird. But there are other reasons in favour of blue. The shining green of the crop, so great an ornament, is never seen half so bright in other colours as in blue pided. I have seen blue Powters whose crops looked like balls of glittering metal. Then the lighter blue of the wings and body does not make so harsh an outline as other colours, and the beautiful and most ornamental black bars tell so well; and as it is possible to get a blue tail the white flights lie against it like bright swords. According to my taste and judgment, black for Carriers, white for Fantails, and blue for Powters.

A word about Powder-judging. I think too much stress is laid upon mere length. Judges stretch out the birds, and the longest wins the prize. If I were judge, I should balance all the points, giving so much for carriage, elegance of shape, narrowness of girth, and a coarse long bird should not heat one better shaped though rather shorter. Powters are different to all other Pigeons, and should have a house adapted to their peculiarities. Here is my plan: Suppose you have a high wall, say that of a neighbour's out-house, or the south side of your garden or back yard; build on to it a sort of verandah in shape, 6 feet deep, and as long as you fancy. Arrange at the back large boxes—tea-chests, or any box that would do for a rabbit-hutch; arrange these one above another in rows, the lowest row 3 feet from the ground, the highest 3 feet from the roof. If you like, have rows of wicker the whole width of the front of each box. Well and good, then you can pair or catch the birds readily. If a box is very long the doors need not extend over the whole front, only let them be wide enough, so that the Powters may be able to fly into them at once easily and without hindrance. In front of the boxes there will be a space for you to walk up and down. The door may be in the centre, with a window on each side. The windows should slide back, and have wire netting over them, so that they could be left open for air without fear of intruders. Inside each window I would place a wide board to feed the birds on if shut up at any time, so that what with boards at the window, the tops of the boxes, and inside each wide box, there would be plenty of broad resting-places for these large Pigeons. In the space in front of the boxes you may sit and read your paper, or pet your birds, stroking and talking to them, watch their habits, see if they sit well, and in fact make them by kind attentions as tame as possible. I have had them so tame and playful as to carry on sham battles with my finger, they flipping it with their wings and cooing defiance at me. Let all be cleaned out daily, and nice loose gravel strewed on the floor of the house.

Next the pans for sitting. Have triangular pieces of freestone, so that the birds may alight gently on their nests, as they frequently bruise the shells with their great weight. I say triangular, as the cleaning-hoe can better do its work. Outside, on this verandah-like building I would place several long flat planks, not unlike children's school forms, only made slighter. On these the Powters love to strut. Anywhere else around, on any other building, I would put similar boards. Let the entrance or entrances be above the door or windows, and they must be wide and high. Now I have described just such a fowl-house as I saw recently at Calne, built by Mr. A. Heath, who is a keen fancier, and appreciates thoroughly his stock of good Powters. By the way, before concluding, I think the hen Powder is less noticed and praised than she ought to be, every eye looking at her large mate, but her slender beauties are not to be despised. A good hen pleases me as much as a good cock bird.—WILTSHIRE RECTOR.

## COMBS CONSTRUCTED ACROSS THE BARS.

I HIVED a swarm of bees into a Woodbury straw bar-hive this summer, and I have lately discovered that instead of work-

ing the combs on the bars, the bees have built them crosswise. I thought of either driving or smoking them, and then cutting out the combs and putting them in properly, securing them in the frames by nailing thin strips of wood on each side, to be removed when the bees have fixed the combs. Is this the proper mode of procedure, or can you suggest a better plan for accomplishing the object I have in view? If driving were the best plan to adopt, would it be better to adopt it in the daytime, or in the evening?—INQUIRER.

[Better leave things as they are until spring, as the combs are now too heavy, and too fragile for safe manipulation. Select a fine day in April, and then operate by driving the bees and re-arranging their combs in the manner you propose.]

## APIARIAN EXHIBITION AT STEWARTON.

HAVING received an invitation from Mr. Eaglesham, Secretary to the Stewarton Horticultural, Agricultural, Ornithological, and Apian Society, to be present at the Exhibition of that Society which took place on Saturday the 2nd inst., and being desirous of seeing the honey product of the locality, where the octagonal-hives were invented and are manufactured, I gladly availed myself of the opportunity. I can assure your readers that I was amply repaid for my visit, as I was completely struck with the quality and extensiveness of the exhibition in all its sections, evidencing the spirit and enterprize of the Society, which certainly is deserving of an extended patronage from the manner in which it is conducted. In the honey department, in which I was more particularly interested, the specimen boxes shown by Messrs Ferguson & Brown, Stewarton, and Robertson, Kilmarmock, were paragons for uniformity and straightness of comb and purity of colour. A colony of brightly marked Ligurians exhibited in an eight-bar observatory hive by Mr. Alexander Ferguson, Stewarton, was a centre of attraction, and was the first time, I believe, such has been exhibited north of the Tweed; and from the transparency of the glass and suitability of position in all my apiarian experiences it is gratifying for one to state, I have never seen these insects to better advantage. It was alone worthy of any sacrifice my visit to Stewarton caused. I was also introduced to several of the principal apiaries in the district, and was shown hives of every make and description, including the Woodbury straw hive. Frames were raised, and I was shown matronly Italian queens with hinder parts like laminated gold, which would have been a treat to Dr. Cumming. Wax sheets were also put into my hands to see if I could distinguish any difference of the Stewarton make, from those sold by the Messrs. Neighbour, and the uniform kindness and courtesy I receive that day from the Stewartonians will ever form a very "pleasant memory" to—URBANUS.

## OUR LETTER BOX.

**COLOUR AND POINTS OF BRAHMAS** (*A Subscriber, Ireland*).—We suppose the numbers shown are a good index to the popularity of a breed. Admitting this, the Pencilled Brahmas are certainly the favourites. The hens should be grey pencilled all over the bodies, and have silver-striped hackles. The cock should have light hackle and saddle, black tail, black and white spotted breast. Pea combs are much preferred to single combs. The reddish brown and cinnamon are both objectionable colours. It is always well to select your breeding stock free from them. When the light Brahmas are well bred as they once were they will be popular. White body, striped hackle, black flight and tail, pea comb, size and shape same as now seen in the Pencilled—these would be beautiful.

**GAPES IN CHICKENS** (*X.*).—Your chickens are dying of the gapes, and have the roup as well. Give to each chicken a pill of camphor, the size of a pea, and put some lumps of it in every vessel from which they drink.

**FOWLS NOT THRIVING**.—*Pip* (*E. S.*).—You take too much pains by half. Give your fowls good ground oats, mixed with milk, some whole corn for a change, very few boiled potatoes, and seldom. Let them have the good grass run. Discontinue all your condiments except natural ones. If their appetite fail, you may give some cooked meat chopped fine. Our opinion is that strong healthy fowls will not catch this disorder, but weak and sickly ones will. As a measure of precaution as well as cure, put camphor freely in all their water.

**CALCULATING NUMBER OF BEES** (*Sympathy*).—We are not sure that we perfectly understand your question. Five thousand bees are considered to weigh a pound, if that is what you refer to.

**EFFECT OF LIGHT ON HONEY** (*Bee-friend*).—We have heard that honey is injured by exposure to light, but do not know how far the statement may be correct. We have forwarded to you privately the names and addresses of two gentlemen, resident in Ireland, to whom Ligurians have been sent by Mr. Woodbury. We have no doubt that either of them would be happy to show you the little strangers, although they might not like their names published.

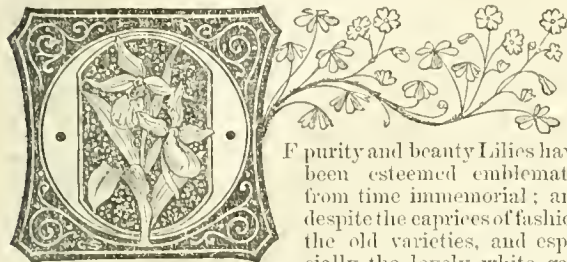
**PRESERVING QUEEN BEES** (*Idem*).—Spare queens may be kept alive a week or two if imprisoned with about a hundred of their subjects in a small wooden box with sufficient ventilation, and provisioned with a bit of sealed honeycomb.

## WEEKLY CALENDAR.

Day of Month.		Day of Week.	SEPTEMBER 19—25, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
				Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	s.
19	Tu	W	Arenaria ciliata flowers.	67.0	45.4	56.2	19	43	af 5	5	af 6	12	5	39	af 5	1	6	29
20	W	Th	EMBER WEEK.	66.9	43.9	55.4	16	44	5	2	6	15	6	2	6	2	6	41
21	Th	F	ST. MATTHEW.	66.3	45.0	55.7	20	46	5	0	6	18	7	25	6	2	7	2
22	F	S	Sun's declination 0° 13' N.	66.6	45.4	56.0	19	48	5	57	5	20	8	50	6	3	7	23
23	S	S	Beechmast falls.	66.3	46.0	56.1	18	49	5	55	5	23	9	17	7	4	7	41
24	Sun	M	15 SUNDAY AFTER TRINITY.	65.7	44.7	55.2	18	51	5	53	5	23	10	51	7	5	8	4
25	M		Grass of Parnassus flowers.	66.8	46.8	56.8	17	53	5	51	5	21	11	28	8	6	8	25

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 66.5°, and its night temperature 45.3°. The greatest heat was 82°, on the 25th, 1832; and the lowest cold, 32°, on the 20th, 1840. The greatest fall of rain was 1.21 inch.

## LILIUM CULTIVATION.



Purity and beauty Lilies have been esteemed emblematic from time immemorial; and despite the caprices of fashion the old varieties, and especially the lovely white gar-

den Lily (*Lilium candidum*) are as much, if not more, admired and valued than ever. Most of them are almost, if not quite hardy, but some are esteemed for conservatory decoration. I shall, therefore, treat of them under two heads—viz., 1st, in pots; and 2nd, for flower-garden decoration.

**CULTURE OF LILIUMS IN POTS.**—Perhaps there are no flowers so beautiful, and so deservedly esteemed as the lovely varieties of the Japanese Lily (*Lilium speciosum*, or *L. lancifolium*, of gardens). The best are—

*Lilium speciosum punctatum*, white flushed with pink; frequently confounded with *L. speciosum roseum*, a much inferior, though fine variety of Japan Lily.

*L. speciosum roseum*, white, spotted rose.

*L. speciosum rubrum*, white with crimson spots; one of the best.

*L. speciosum album*, pure white, and not so strong-growing as others.

*L. speciosum eruentum*, a fine variety of *rubrum*, a strong grower, and more profuse-blooming; white with crimson spots.

*L. speciosum monstrosum*, a fine, bold flower in the way of *rubrum*; white with crimson spots.

In addition to these there are others which I have not grown, but hear well of. Such are *L. grandiflorum*, which is a fine flower, and very large; *L. regale*, highly coloured, said to be very fine; *L. Harrisoni*, of fine form; *L. speciosum corymbiflorum album*, little different from *album*, if I have seen the true variety under that name; and *L. speciosum corymbiflorum roseum*, certainly little different from *L. speciosum roseum*, if not the same.

*Lilium auratum*. Certainly one of the best flowers ever introduced by Messrs. Veitch; white, spotted with crimson, with golden bars parallel with each lobe, and delightfully scented. The best of the Lilies. There are many imported bulbs that are not true. To have it true it is necessary to give a good price.

*Lilium Brownii*. Why change *L. japonicum* to this? Is it that *L. longiflorum* is often substituted for the true *L. japonicum*? It is a somewhat rare species, with large creamy white flowers shaded externally with brownish purple, grows 3 or 4 feet high, and has several blossoms on one stem, in character after those of *L. longiflorum*.

*Lilium cernuum*, a fine form of *L. longiflorum*, taller; flowers larger, and generally more numerous.

*Lilium longiflorum*, dwarf, 1 foot to 18 or 20 inches high; flowers white, trumpet-shaped, fragrant.

*Lilium neilgherrense*, dwarf, a little more than a foot in height; flowers creamy white when opening, but changing to a clear white.

*Lilium giganteum*, leaves large, glossy dark green, heart-shaped; flowers white, borne on terminal racemes, trumpet-shaped, marked with violet crimson streaks, and highly perfumed. It is a stately-growing kind. Its variety, *cordifolium*, blooms two months later, and is not much to my liking.

*L. Thomsonianum* is not so imposing as many, but still a neat, rosy-flowered kind, though hardly worthy of pot culture.

*L. sinicum*.—This is a fine scarlet Lily, and not coarse like *L. giganteum*. About 1 foot to 1 foot 6 inches high.

*L. tigrinum*, orange salmon with black spots; 2 to 3 feet high.

*L. Thunbergianum (renatum)*, orange streaked scarlet, and its variety *grandiflorum*, crimson, grow from 1 foot 6 inches to 2 feet high.

*L. philadelphicum*, orange red with black spots, is fine and dwarf, attaining a height of 1 foot 6 inches to 2 feet.

All the above, except *L. giganteum*, do well in a compost of one-half turfy yellow or light hazely loam from turves a year old, turfy sandy peat one-fourth, and leaf-mould one-fourth, with a free admixture of sharp sand, the whole well incorporated and chopped with a spade, but not sifted, as a free open soil is desirable. Good drainage is very essential; it should occupy at least one-fourth the depth of the pot, and be covered with a layer of sphagnum or cocoanut fibre half an inch thick. On this 3 inches of the rougher parts of the compost are to be placed, and then more compost to fill the pot little more than half full. The size of pots will, of course, vary with the size of the bulbs, no better criterion for determining the distance apart can be given than placing them fully their diameter from bulb to bulb, and half their diameter from the sides of the pot, remembering always that the more bulbs that are placed in a pot consistent with their being at a suitable distance apart, the finer will be the specimens; not that smaller specimens are undesirable, for I know they are useful for vases, and other purposes where large pots could not be accommodated, but because few bulbs in large pots are of little use. In selecting roots of the varieties of *Lilium speciosum*, choose those with the greatest number of crowns. Those with three are excellent, and so are those with two, and large single-crowned bulbs are also good, but they will only give one spike of flowers, whereas the double give two, and the treble three. Thus, if you place six roots of each in a 12-inch pot, you have but six spikes with single-crowned bulbs, twelve with double ones, and eighteen with the trebles. Exhibitors frequently gain by employing double and treble crowns, whilst their opponents use single crowns, and as a consequence have only half, or two-thirds the bloom of the winners from a similar number of bulbs and size of pot.

As soon as the leaves turn yellow is a good time to pot the bulbs, whether purchased, or removed from the open



ground, also for repotting those grown in pots. It is desirable, however, to change those that have been grown in pots for years and forced for those grown out of doors; for *Liliums* become weaker after being grown under glass, especially if forced.

The pots being prepared as already described, take the bulbs up carefully, without breaking their fleshy roots, and place the base of the bulb on the compost without pressure, spreading the roots out carefully in all directions as they appear to have grown. The requisite number having been placed in a pot put some compost between each, keeping the crowns erect, and cover to an inch above the crown. This will bring the compost to within one-third the depth of the pot below the rim. *L. longiflorum*, and all the dwarfier kinds should be placed somewhat higher in the pots, so that the pots may be three-quarters full when the bulbs are just covered with compost. Whether the pots be large or small, a space equal to one-third for the strong, and of one-fourth for the smaller kinds, should be left, to allow of a top-dressing of rich compost being given after the shoots have grown sufficiently high, in order to afford a medium for the roots that are emitted from the stem to run through, and so contribute to the support of the stem, flowers, and foliage.

Having potted the bulbs at the time the leaves fall, or immediately afterwards, place them in a cold pit, plunging the pots to the rim in coal ashes, and giving no water if the soil is moist, but if dry a little may be afforded. The lights may remain off day and night when there is no likelihood of frost or rain, drawing them on only in frosty and wet weather. During frosty weather some dry straw, litter, or leaves, should be placed over the pots within the frame, keeping the lights on constantly so long as the frost continues, and until the covering within the frame is thoroughly thawed, when they should be drawn off, the protection removed, and not replaced so long as the mild weather continues. The bulbs require to be protected from frost, though a few degrees will not injure them, if only they are not exposed to light and sun until thawed; protection from cold deluging rains is also necessary, but all the air and exposure at other times consistent with those conditions should be given.

Towards spring the shoots will be appearing, a little water may then be given, but not much, and always on a fine day and early. Air will now be required daily; then open early and close early, protecting during frosty nights by a single or double covering of mats, according to the severity of the weather; and this state of things goes on until the plants grow so as to almost touch the glass, and being kept near it the shoots will become strong, and have the leaves not far apart. It is a main point in the culture of *Liliums*, to keep them cool, well aired, near the light, and healthfully moist at the root, but not wet.

It is a common practice to keep the pots plunged in ashes, tan, or leaves, in a cold pit during the winter. This is good so long as the roots are not kept wet during the winter, and frost excluded; but it very often happens that the shoots have grown through the 6 inches of tan or covering material ere the covering is removed, and the roots are weakened, and so much lanky stem is produced to begin with. If plunged in such materials the pots should be removed before the top growth takes place, for immediately any plant appears above the surface of the soil in the pot, the foliage should be exposed directly to the action of the atmosphere. The potted bulbs should, therefore, be removed by the beginning of March.

A third mode of wintering *Liliums* in pots consists in placing them on the marginal spaces of paths or stages in a cold greenhouse, where preserved from drip. This is a very suitable position, they being kept cool and dry, and the soil, nevertheless, a little moist. Beneath the stages, under other plants requiring watering, the soil is apt to become sodden, and the roots are weakened, and some decay through it.

In whatever position the bulbs are kept they will commence growth in the spring, and must be kept near the glass, have air daily in mild weather, whether in the greenhouse, frame, or pit, and be watered so as to keep the soil moist, always allowing the surface to show a want of water before any be given, then give enough to show itself at the drainage. A moist atmosphere is essential to free growth. When the shoots are from 3 to 6 inches in length, top-dress the pots to within half an inch of the rim with the compost used for potting, with the addition of an equal quantity of cowdung a year old mixed with it thoroughly. Employ the compost in a rough state, for an open surface admits air to the roots. Whether the plants are

in the greenhouse, frame, or pit, it is important to keep them near the glass, and if this cannot be done through there not being the conveniences at hand to change the pots as the plants grow, it may be effected to a certain extent by placing the pot on an inverted flower-pot, and afterwards lowering it as the plants increase in growth.

It is desirable, when there is a sufficiency of any kind to have a succession of bloom, to keep some of the pots in a greenhouse, and such bulbs under ordinary greenhouse temperature will bloom in the beginning of August. Others may be placed in a cold frame, and merely protected from frost, and sheltered from heavy rains, with air at other times. Half of these if placed in a deep pit, and elevated so as to be near the glass at first, but as they grow lowered, so as to be always near it (air being afforded day and night, but the lights kept on except in very mild, close, damp weather), will give the finest specimens, and bloom soon after those grown in the greenhouse. Others grown in a cold frame until the middle or end of May, and then placed out-doors in a light, airy, yet sheltered situation, due attention being given as regards watering, and the pots protected by being plunged, will form fine ornaments for the conservatory or greenhouse in September.

As the plants advance in growth water must be given freely, but a very wet state of the soil is not beneficial to *Lilies* at any stage of their growth. It should, however, be kept moist, and not allowed to become dry upon any consideration. When the flower-buds show weak liquid manure or guano water, made at the rate of 1 oz. of Peruvian guano to a gallon of soft water, may be advantageously applied at every alternate watering until the flowers open. Afterwards pure water is better. During the growth of the plants it is very desirable to turn the pots frequently in order that the shoots may incline equally to all sides, and not in one direction only, as they invariably do when the plant receives the light unequally. If sticks could be dispensed with it would be a step in the right direction; but it being very rarely that this is possible, neat sticks painted green should be placed to each stem, and the shoot tied to it, forming a uniform head with room for each bloom to show itself without hiding its neighbour. The sticks should not be thicker than the stem of the plant, otherwise they will appear out of proportion.

*Liliums* are subject to green fly or green aphid when grown under glass, especially in a close warm house, or in badly ventilated structures of any kind. These pests fasten on the growing points of the shoots, make the leaves curl, and soon disfigure a good specimen. Fumigating with tobacco is the only effectual remedy, and the proper time to do so is when the first aphid is seen, the plants being frequently examined for that purpose.

Whilst blooming *Liliums* should be liberally supplied with water, but when the flowers fall the supply should be gradually diminished, and cut off altogether by the time the leaves fall and the stems turn yellow. This being the case, the stems are cut off to the surface, and the soil taken out of the pots level with and around the roots, but not so as to injure the latter. The stems are then cut off closely above the crowns, and on these underground stems will be found some young offsets or bulbs. These may be potted several in a pot or planted outside, for which directions will be given hereafter. The offsets will bloom in about three years if liberally treated. Make sure that the drainage is perfect, and if not so it must be put right, and fresh compost placed between the roots without disturbing the ball in which the principal roots are situated, covering them with soil the same as when fresh-potting.

If the pots are too full of bulbs these may be potted; but every third year is often enough to do this, the top-dressing in autumn and earthing-up in spring being all that is necessary. Potted every year the main roots are injured more or less. The bulbs should not be potted unless the pots are too full of roots, nor taken out of the soil, much less kept out drying on shelves, except for the purpose of repotting or increase. *L. longiflorum* may have the soil taken out between the bulbs in autumn, and the small offsets removed, fresh compost being filled in. All the *Liliums* which require a cool temperature are best kept from October to March so as to be safe from frost. All the kinds named above may be had in bloom in the end of June by placing them in a vinery in February, and in July if placed there in March, when the Vines are set to work, assigning them the lightest and airiest position.

*Lilium giganteum* and its variety *cordifolium* require rich soil. They do well in turfy loam one-half, one-fourth leaf mould, and one-fourth rotted cowdung, or in place of it peat

may be substituted. Good drainage is necessary, and plenty of pot-room. A fine blooming root will be a giant indeed if put in a No. 1-pot. Suckers or offsets should be placed in pots proportionate to their size, and be grown on under liberal treatment until of a blooming age. All should be potted in autumn, taking off as much of the old soil as can be done without injuring the roots, and deep enough to just cover the crown. They should be kept over the winter in a cold pit, or any similar place from which frost is only just excluded, and in spring as growth commences have moderate supplies of water. When growth becomes active the waterings must become copious; and when the plant is blooming it should stand in a pan of water or be very freely watered. After blooming gradually diminish the supply of moisture, so as to give none by the middle or end of September; and keep near the glass in a pit or frame, by which the ripening of the bulb will be secured and the large leaves will droop. When these are quite gone remove any offsets that are likely to rob the large roots of support, potting the old roots if a shift be necessary, otherwise it is not requisite to pot them every year. Whilst growing manure water at every alternate watering will be serviceable. Plenty of pot-room, liberal treatment when growing, well ripening the bulbs in autumn, and a period of rest are all that is needed to grow this gigantic Lily. It does well in a cool greenhouse or conservatory, and requires one rather lofty, as it frequently sends up stems of 10 feet high.—G. ABBEY.

(To be continued.)

## GREAT INTERNATIONAL HORTICULTURAL EXHIBITION AND CONGRESS OF 1866.

WE have much gratification in announcing that Her Majesty has graciously taken this Exhibition under Her patronage, and has liberally contributed the sum of £50 to the subscription list. We are glad to add that the public are responding well to the call which the Committee have made, and with Her Majesty's example before them we hope that contributors will come freely forward and aid in carrying out to a successful issue an undertaking of such national importance.

## PEARS FOR BUSHES AND DWARF PYRAMIDS IN THE NORTH OF ENGLAND.

EFFECTS OF DOUBLE-GRAFTING.

You will be conferring a favour on me, and perhaps on many others, if you will give a list of Pears suitable for bushes or dwarf pyramids in the open ground in the north of England. I am induced to ask this for the following reason. *Beurré de Capiaumont* is of extraordinary fertility and good quality on an east wall here, but degenerates into a mere crab when cultivated as a pyramid; whilst *Marie Louise*, although much more tender when in blossom, and later in ripening its fruit on an east wall, retains or perhaps improves its quality by being grown on a bush. It so seldom bears a crop, however, as to offer no inducement here to grow it in that way.

I should also like you to treat on the variations in quality (specifying sorts), which are induced by grafting on the quince and thorn stocks. Here I grow the *Dunmore*; and when I received the grafts I worked several on trees on an east wall which had been grafted on the quince, whilst others were grafted on pear stocks, one of which grows against a south wall. The latter are much larger Pears, but neither from that tree nor from standards on the pear are they at all to be compared with those double-worked on the quince for flavour, or any other good quality. Again, the fruit from the *Beurré de Rance*, double-worked on the quince, were gathered last season on the same day as some grown on pear stocks, both growing against walls having the same aspect; and the fruit, kept in the same fruit-room, became melting and excellent in January, whilst that grown on pear stocks never became melting at all, although kept until May. Again, the fruit of the *Seckle* on a tree double-worked, is with me twice as large and twice as good as that grown on pear stocks.—T. G.

[It is most difficult to give a decided opinion as to the best kinds of Pears for the north. No fruit is so capricious. There are some sheltered warm valleys in the far north in which fine Pears ripen well, while in contiguous sites and soils they refuse to do so. Nothing but experience can determine this, and as trees are cheap it can be bought at a moderate rate. The sorts

of which we give a list form prolific bushes when double-grafted: by this we mean, first to bud a free-growing sort of Pear on the quince, and then graft the sort required on to the budded plant. This is fully treated in the thirteenth edition of the "Miniature Fruit Garden" by Mr. Rivers. Summer Doyenné, Jargonelle, Victoria (Huyshe), Prince of Wales (Huyshe), Autumn Nelis, Winter Nelis, *Beurré Bosc*, British Queen, *Seckle*, Aston Town, *L'Incommue* (Van Mons), *Josephine de Malines*, *Beurré de Rance*, Suffolk Thorn, Thompson's.

Sorts that may be grown as bushes on the quince stock without double-grafting.—*Alexandre Lambré*, *Baronne de Mello*, *Beurré Bachelier*, *Beurré d'Amanlis*, *Beurré Goubault*, *Beurré Hardy*, *Beurré Superfin*, *Conseiller de la Cour*, *Doyenné Boussoch*, *Doyenné du Conice*, *Fondante d'Automne*, *Jersey Gratioti*, *Louise Bonne*, *Marie Louise D'Uccle*, *Madame Heyne*, *Passe Crassane*, *Vineuse*, *Yat*, *Jalonsie de Fontenay*, *Poire Pêche*.

Systematic double-grafting of fruit trees is likely to lead to most beneficial results, by it we mean the careful selection of stocks to suit different varieties. Thus, for instance, Mr. Rivers points out the *Beurré d'Amanlis* Pear as a fit stock on which to double-graft the *Jargonelle* and *Gansel's Bergamot* Pears, and *Conseiller de la Cour* for other sorts. The truth is, care is required to do the thing well. Useless double-grafting on all sorts of Pears on quince stocks will, to a certainty, lead to failures.

Continental pomologists and nurserymen know little or nothing of this refined method of fruit-tree culture. Much may thus be done in improving the health and fertility of our trees, and the flavour of their fruit. English gardeners seem to have for the most part confined themselves to producing fine Pines, Grapes, Peaches, &c., leaving the study of fruit-tree culture to nurserymen who, we trust, will now see the path open to fame if not to profit.]

## KITCHEN GARDENING.

JULY.

THIS month, which begins, as it were, another season, might, I think, not inaptly be termed "bedding-out" time in the kitchen garden, as on the first rainy day that we are favoured with winter stuff should be permanently planted out. Presuming that the plants have been pricked out according to previous directions, the next consideration will be where to plant them, as a casual observer would pronounce the garden to be already full; but on the proper use of this month will depend the aspect of affairs in the ensuing winter. I first begin with Brussels Sprouts, as the plants of these from the first sowing will by this time require more room than the nursery-beds will afford them. In planting what I term my first batch this year, I must admit that I have not exactly practised what I have preached, as I planted on the ground previously occupied by spring Cabbage; but I made a very large hole in the manure-heap to atone for my disregard of the laws of rotation.

The next crops of importance will be the Sprouting and autumn Broccoli, though with the latter I never do much, as it is rather a precarious crop with me; but as a row or two of Peas will by this time be done with, I generally occupy their position with two or three rows of autumn Broccoli, finding room for a row of Cabbage by the side of them if possible. Space can be found for four rows of Sprouting Broccoli and two rows of Variegated Kale between and on each side of the first-sown three rows of Scarlet Runners, which will by this time be fit to pick. One of the most important considerations in this double cropping is to exercise great care in gathering the produce of the first crop, so as not to tread upon or otherwise damage the second or winter crop.

The first batch of Savoys having been planted on the ground where the early Peas were grown, space must be found for the main crop. As the Broad Beans will by this time be getting shabby, or at any rate can be dispensed with for giving variety to and keeping up the supply of vegetables, and as the Potatoes between the rows may be taken up, the ground thus set at liberty can be prepared and planted with Savoys. For the first sowing of Turnips I use, or take up, three or four rows of Cabbage of the second lot, and, digging up the Potatoes between the rows of Cabbage, the seed can be sown at once, so that the ground is scarcely idle a day.

As the south border will by this time look anything but neat, with half-used beds of Early Horn Carrots, spring Onions, seed-beds of winter stuff and several other things that are



there, the plan I usually adopt is to give a good coat of manure and dig it down, as the above-mentioned vegetables will not pay for the room they occupy. By so doing a nice piece of ground is set at liberty for the last sowing of Dwarf Kidney Beans, a good bed of Coleworts, and beds of salads, &c., leaving a piece for plunging the Chrysanthemums, and for cuttings of bedding Ceraniums if required.

The Scarlet Runners last sown may, towards the end of the month, be sticked; and four rows of the second lot of Brussels Sprouts, with two rows of Green Curled Kale, may at once be planted between and on each side of them. Should the ground be dry, which is often the case at this time, the best plan is to draw drills, as if for sowing, where the above are intended to be planted, and to water the drills well the day before planting; after this has been completed by giving the winter stuff and the Beans a good watering of liquid manure, a day or two afterwards going over the ground with the flat hoe, or, rather, draw-hoe, the crop will go on all right.

It often happens at this time that there is such an abundance of vegetables, that the pods of Kidney Beans are allowed to ripen on the plants, which considerably shortens the duration of their productiveness. A very good plan when such is the case is to take the short shears and clip about one-half of them, just as you would clip an evergreen hedge. The plants so cut will break into new growth, and come in as a succession to those left untouched by the shears. Speaking of hedge-clipping reminds me that if there should be any evergreen hedges round the garden they ought now to receive that attention.

The Peas at this time should be kept watered and mulched, as, if the ground is at all of a dry nature, it is almost impossible to have good Peas without such attention; and it should be borne in mind that if they are not well looked after now the results will be felt in September. I have known Dickson's Favourite Peas so treated bear a second time first-rate. Custard and common Vegetable Marrows being now in full bearing, Yorkshire Hero and Veitch's Perfection Peas may be cleared off, and the ground previously occupied by them heavily manured and thrown up roughly, so as to be ready for Cabbage in the autumn, thus giving it two months' exposure to the weather, which will be very beneficial to the crop.

Celery should now receive every attention with regard to putting out successional trenches, watering, &c. The first rows of White and Red may have a little earth drawn to the roots, or, which answers the same purpose, the ground forked deeply on either side of the rows; and as soon as the Dwarf Kidney Beans are well up the last trenches of Red may be put out between the rows, using if possible good stocky plants. The first bed of Endive may be pricked out, and more Lettuce according to the weather and the demand, sowing more of each, but not much at one time. The only way to have good salad-land at this time of year is to follow out the Rev. W. F. Radclyffe's advice—to have plenty of water in or near the garden, and willing hands to apply it to the crops.—BRISTOL, P. D.

(To be continued.)

## IRON FILINGS AS A MANURE FOR ROSES AND STRAWBERRIES.

A short time ago I was informed by a lady that a friend had told her that he had found the application of iron filings, as a manure, highly beneficial to Roses. Since then, in perusing the valuable work of Mr. William Paul on "The Rose Garden," I was struck by the following remarks:—"I have long thought that the iron which abounds in the soil of one of the nurseries here is an ingredient of importance in the culture of Roses. I would not say that it is indispensable, but beneficial; and am almost confident that it heightens the colour of the flowers. When the soil in this nursery is hoed or forked, the rapid increase of growth of vegetation is startling beyond measure. This practice is known to promote growth in all soils; but the extent to which it does so here is, I think, due to the oxygen of the air changing the iron contained in the soil from a substance pernicious to vegetable life, into one favourable to its development."

Turning to the catalogue of fruits published by Mr. Thomas Rivers, I observe that he says that "The British Queen Strawberry flourishes in soils in which iron abounds. Sussex is the paradise of our queen of Strawberries." I know not whether the soil of Messrs. Wood's nursery, at Maresfield, in Sussex, abounds in iron, but probably it does, and hence, perhaps, the fine growth of the Roses.

Assuming that iron is beneficial to Roses and to the British Queen Strawberry, if not to other varieties, it becomes a question whether iron filings may not be advantageously used either by mixing them with animal manure, dug into the soil, or by top-dressing. As the season for manuring Roses is rapidly approaching, it seems to be desirable that more light should, if possible, be thrown upon the matter.

I have scattered iron filings on the surface of two rows of British Queen Strawberry runners, planted in July, twice during rains, and had the soil surface-hoed continually, and I intend to make the same experiment upon a few Roses in the ensuing autumn, incorporating the filings with the soil, instead of strewing them on the surface.—AN AMATEUR.

[We hope that you will report to us the results of your experiments, for if they are unfavourable they will act as warnings, and if favourable as encouragements. The red oxide of iron is likely to be beneficial to the plants, for it is known to retain the ammonia, which would otherwise escape from the soil, and it also has the power of absorbing ammonia from the atmosphere. We know more than one soil abounding in the red oxide of iron, noted for Roses.—EDS.]

## AN AFTERNOON IN SYDNEY GARDENS, BATH.

Bath is the very place for a flower show. Though no longer visited by royalty, though nobility do not, as of yore, make it a residence, yet it has a large, never before so large, population, and one for the most part living in easy circumstances; hence just the people likely to love and cherish flowers, and, of course, understanding them to a degree; also, just the people likely to gather at, and crowd a flower show. It is some years since Mr. Dickens spoke of Bath as "the grass-grown city of the ancients," a description which if then true, is certainly true no longer, for Bath streets are not grass-grown, too many feet are passing along them, and too much attention is paid to them to permit weeds to mar those well-cleaned ways. The taste for flowers, and the demand for them in Bath, may be judged from the great number of nurserymen in and around the city. A refined and leisurely people are sure to love and cultivate flowers, though even in the most adverse circumstances, and most opposing conditions, a great flower-devotion is sure to crop out, as here and there a house in the dingiest alleys in London reveals.

On Wednesday last "the fair city of the west" was to be seen to perfection. The show had been extensively advertised, consequently the trains arriving in the morning and at midday were heavily loaded, so that the streets were full of folks, with the eager happy look of those out for a day's treat, and intending to enjoy themselves to the utmost. From the tower of the old Abbey Church the royal standard was floating, proclaiming a holiday to the eye, and the merry clash of its bells proclaimed a holiday to the ear. By two o'clock streams of carriages were making their way slowly through Pulteney Street—by-the-by, that is about the only street in Bath one can stroll down comfortably, most of the others being paved with hills. As I was driving along I could not fail to notice the throng of happy faces on the kerbstone, pleased lookers-on, and I could not but think that a flower show is the cause of pleasure, even to those who never see the flowers, those who are unable to find the half-crown for early admittance, or even the single sixpence for the five o'clock entrance.

But while moralising, I am at the entrance of Sydney Gardens. In that house left of the gate once lodged a gloomy-looking Frenchman, sometimes hard up for cash and credit, now having plenty of both—viz., His Majesty the Emperor of the French. Ah! it is a queer world we live in, full of ups and downs, but some of us get most of the latter; however, there's a good time coming, so don't be downhearted. Soon the gate is passed, and I am lost in a crowd. Lucky Committee! another fine day for your show; and out of twenty shows you have, I learn, only once had thoroughly bad weather.

As to Wednesday last, it was a glorious day, brilliant without being either scorching or oppressive. Near me all was life and clearness, and afar off, to quote Wordsworth—

"The lovely landscape indistinctly glared,  
Through a pale steam."

I am carried on by the force of those behind me, but am brought to a standstill, as all others that had preceded me, in front of the orchestra, where the band of the Royal Marines are entrancing all listeners. How strange it seems that any one can dislike music. Surely Dr. Johnson was very bilious when he

called it "the least disagreeable of noises." But there is something stranger still—that there had ever existed a human being that disliked flowers. Yet Mr. Smiles tells us, that the Duke of Bridgewater, he of the canals and coal pits, "would have neither conservatory, pinery, flower garden, nor shrubbery; and once on his return from London to his country seat, finding some flowers which had been planted in his absence, he whipped their heads off with his cane, and ordered them to be rooted up." No wonder that we also read of this Duke of Bridgewater, that he was a coarse feeder, and smoked more than he talked; that he was rough in speech, and gruff in manner, and that he read little besides "an occasional newspaper."—N.B.—He would not I fear, have read *THE JOURNAL OF HORTICULTURE* even once a-year—also, that he hated woman-kind (earth's animated flowers), and bored everybody to death with his canals and his coal pits. "*Quiescas in pace*," D. of B., I hope no one living resembles thee.

To return to the Bath Show. Ten thousand people were present, and the tents were so crowded that it was impossible to see everything. I twice tried to enter the fruit tent, and twice retired defeated, for there was a cram or block of people, whose tempers were apt to get a little tart without the aid of the fruit; and others were somewhat crusty with the heat. I luckily met with good "Y. B. A. Z.," who had succeeded in entering the tent earlier in the day, and he declared the Show was magnificent, especially the Black Grapes. One of those good-tempered fellows of the police-force was giving a hint to a man who seemed inclined to touch the said Grapes, saying, "Mind, the Grapes are sour." He got his reply, "Oh! you've been eating of them, then." I wonder whether the latter was an Irishman.

I had a good view of the "Ornamental Plants with curious foliage," and very excellent they were. The most splendid collection was that of Mr. Jesse Gouldsmith, who carried off the first prize for nine varieties, and also the first prize for twelve varieties. I lingered in this tent wondering and admiring, looking at the painted leaves, for painted some of them seemed; then others looked like stained glass as the light shone through them. What elegance of form in some! what depth of colour in others!

Next came the Fuchsias. These were arranged down the centre of a long tent, having that centre to themselves. Verily, a look from top to bottom gave one a glorious scene. one seemed to see thousands of miniature chandeliers; but yet I was assured by a good judge that these flowers were not equal to those of former years. Under the same tent, the south aisle of it, to speak ecclesiastically, were the Hollyhocks, which were very good; also the Dahlias, very good, those shown by Mr. Keynes being superb. The Asters, too, called forth much approbation, and many remarks, "Which are the prettier, the French or the German?" I prefer the former, though you must have fresh sent from abroad each year, but, then, the German are so formal-looking. One gentleman near me made a remark concerning the German Asters, which was capital. "What good rosettes they would make for my carriage horses!" A lady said, "What pincushion-looking things!" Verdict, therefore, "French Asters preferred." The Roses which came next drew towards them all eyes. Never was the Rose so popular as now, thanks to those who have brought out the Hybrid Perpetuals. Mr. Keynes was first with twenty-four bunches. Somebody said, "Mr. Keynes was an *able* man." I would say he beat many able men. Among all the Roses shown, Charles Lefebvre looked best. The vegetable tent was one fearful to encounter. Had I seen it outside my kitchen-door it would have been a welcome sight, but on a fine afternoon, in close proximity to flowers and a fair throng, the huge vegetables, specially the vile herbs, I mean Onions, were terrible. Those frightfully large Cabbages, who could eat them? those dyspeptic Carrots, called Parsnips, away with them, and away from them, and back to music and flowers.

One of the arrangements of the Committee was, I thought, excellent—viz., the best music was reserved for the last; so those who less frequently than their betters hear excellent music, had now the opportunity. A flower show, like everything else, has its extremely amusing side, and I love to watch it; life is full of tragedies, let us catch gladly, then, at the comedies. Thus there was the paterfamilias at the refreshment tent, who had been supplying his youngsters and feeding them at some distance; when he said to the woman who served, "Now then I want to pay—I've had nine buns, two bottles of ginger beer, and an ice," a young man from the country, who stood next, opened eyes and mouth, evidently

marvelling at the gentleman's prodigious appetite. Then there were those who seemed to do nothing but look for other people, whom of course they never found. Then there were the faces that puzzled one, not seen for twenty years, and the thought, "Is it possible that large-waist-coated gentleman was Mr. So-and-so? and oh! tenderer far, that lady with grey hair the lady I used to meet long since?" But I am lapsing into the doleful after having written against it. Teaching and practice should go together. I thought of the past at Bath—its false gaiety, its folly, its gambling, its vice; and the present, that I beheld, was, thank God, free from all these. I applied to what I saw Eliza Cook's words—

"Far more grand a scene is ours  
Than that where jewell'd brows  
In olden days met ball-room flowers,  
And spruce 'Beau Nash's' bows."

—WILTSHIRE RECTOR.

## VISITS TO GARDENS PUBLIC AND PRIVATE.

MADAME LE GRELLE D'HANIS, ANTWERP.

I HOPE those of the readers of *THE JOURNAL OF HORTICULTURE* who take the trouble to look at even the heading of these visits of mine, will not imagine that they are written in chronological order, for they would then assuredly come to the conclusion that I had a season ticket for Belgium, and every now and then went across to see some garden or city. The truth is, that these notes on Belgium were all made in the early part of June, that I had intended to have sent them each successive week to the Journal, but that other matters interfered—correspondents ask for information, flower shows require notice, new plants must be described, and so it is that here in September, I find I have not yet finished these few rambling notes.

If Ghent be the Paradise of nurserymen, it would almost seem as if, like an artesian well, it had drained the neighbouring places of their supply, for I could only hear of one nurseryman in Antwerp, so rich in its works of art, and its associations, and his nursery (M. Van Geert's) one of by no means a first-rate character. To him I was indebted for the information that the wife of M. Le Grelle d'Hanis, who holds an honourable position in Antwerp, was an enthusiastic admirer of flowers, and had been a successful exhibitor at the various Belgian exhibitions, and also at the International Exhibition at Amsterdam this season. So bidding our *cocher* to drive us to the "glacis," the great public promenade and drive of Antwerp, we soon arrived at a handsome villa residence, enclosed on all sides, and within which the best private collection of plants and flowers in Belgium was to be found. In saying this one must bear in mind, that although there is more of the stay-at-home life in Belgium than in France, and the everlasting *café* does not meet you at every turn, and the female portion of the population keep more at home, yet as a rule, amateurs are very scarce in Belgium, and many of those who rank under that name are really growers for sale, from whom a nurseryman, if he wants to execute an order, and is hard pushed amongst his own plants, is sure to obtain what he wants to buy and sell again: consequently an amateur like Madame d'Hanis, who for the mere love of flowers, and honour and glory to be derived from exhibiting, cultivates her tastes, is a *rara avis*, and I felt naturally anxious to see how far she might be compared with some of our leading amateurs in England.

The grounds have nothing very remarkable. There was some good foliage about the place, and the villa and its appurtenances might be fairly compared to such as Mr. Rucker's, of Windsworth, but immensely inferior to it in the neatness which in English eyes is so very desirable, and which one finds in Belgium more than in France; but the beautiful, soft, velvety turf which marks our villa residences was wanting at Madame d'Hanis's, where it was coarse and rough, "ill-shaven and unkempt;" nor in the houses was there, so far as I could see, so much variety, or that extensive collection of individual genera, as in those at home. There was much to interest, and many plants were in an excellent state of cultivation. In the Orchid-house there were some fine plants of *Oncidium Lancanum*, *Catasetum longifolium*, *Epidendrum Junghuhnii*, *Zygopetalum rostratum*, *Cattleya Mossie*, *Bifrenaria longicornis*, and other species. In the next house there were some very fine specimens of *Marantas*, especially Van den Heckii, truncata, vittata, very large, zebrina, striata, and majestica, the latter one of Mr. Linden's recent introductions. It is somewhat in the way of *regalis*, but the growth is more



robust, and there is a metallic lustre about it which adds to its interest; but all the Marantas will be eclipsed, even Veitchii, by some new ones (of which more anon), which Mr. Linden has obtained from his collector, Mr. Wallis, in the virgin forests of the high Amazon.

In the fernery there were some fine plants of both tree Ferns and others, but there was nothing very remarkable either in the kinds grown or in the manner of growth. A house was set apart for fine-foliaged plants, and in it were to be found some fine specimens of Caladiums, Colocasias, and other Aroids, such as Anthurium Ghiesbreghtii and magnificum, Alocasia Veitchii, Alocasia macrorrhiza variegata, &c. Here I may notice, that Madame d'Hanis exhibited at Amsterdam seventeen or eighteen species of the beautiful but very miffy Anæctochilus; they had not, however, been bettered by their appearance in public, a complaint which, I believe, many English and foreign exhibitors had to make as well. There was, of course, a fine Camellia-house in which trees planted out were growing luxuriantly; but I do not think they were equal to many collections I have seen in England. There was a remarkably complete collection of Agave, plants very little grown or admired in England, but which here were grown in large numbers. Amongst the most remarkable were filifera, with its curious thread-like appendages, Ghiesbreghtii, Verschaffeltii, xylinaantha, succafolia, mexicana, and Rumphii. These were placed in the open air and were evidently one of the pet plants of the place. I also noticed in the garden, Iresine Herbstii, grown in a bed with one of the species of Mesembryanthemum, and very pretty it looked, quite confirming my opinion, that it will make a desirable plant for variety; but bedding-out there was none in our sense of the term. Among some remarkable plants which I noticed in the houses (a detailed account of all therein would be useless), were Areca Verschaffeltii, a most beautiful and graceful Palm; and Adelastrum albo-venosum, a beautiful glossy green creeper with white nervures, but which the gardener stated to be a very difficult plant to grow; here, however, it seemed to be succeeding very well. There was a plant of Lilium auratum with thirteen blooms, but the blooms were crowded together and were small. This Lily is as much admired by the Belgians as by ourselves.

After the inspection of the garden we were courteously invited to enter the house and see the large collection of gold and silver medals, the trophies of Madame d'Hanis's success. They were beautifully arranged in a very handsome cabinet, and were upwards of three hundred in number, while the other side of the recess was to be filled up in a similar manner, a large number of medals having already been obtained, nearly sufficient to fill it. With us a more prosaic view of these matters is taken, and "de cash," or a handsome piece of plate is more valued. Does it betoken more desire for "La gloire," than we exhibit?

Such was my horticultural experience at Antwerp. It is not a place where horticulture seems at home, and the traveller who is imbued with such notions will hardly find it worth his while to visit it for this. How rich it is in other respects every one knows. What glorious Rubens those are in the cathedral! and what gems in the Musée! One sight I should not like to have missed at the latter place, and that was M. de Fillenl, a well-known artist, who having been born without arms has succeeded by perseverance and energy in attaining considerable reputation as a painter, and that by his feet. It was certainly very wonderful to see him holding his palette with one foot, and his brush in the other, and painting with the greatest ease. Not only does he do this, but shaves himself, and, in fact, makes his feet perform all the functions that we use our hands for. He can unscrew the little tubes of paints, and when we were leaving gave with his foot to my wife one of his cards, which he had selected from his box. One could not but feel admiration for a man who had thus so signally triumphed over difficulties. He was a gentlemanly man, and his whole appearance and manner very pleasing.—D., Deal.

### DESTROYING GOOSEBERRY CATERPILLARS.

UNDER this head I read in your Number of September 5th the mode adopted by Mr. McGregor. For the past ten years I have pursued the same course, and scarcely during that time do I recollect of a single infested tree. In November or December I have the earth taken from the stem of each tree for about the space of 18 inches all round, and as deep as the roots will permit. I leave the roots exposed to the weather for three or

four weeks—if the atmosphere be cold and dry I leave them longer—then fill in with manure or fresh earth, and I have a splendid crop of fruit without suffering from caterpillars.—JAMES PRIM, Monkstown, Dublin.

### GLEANINGS FROM ROCK AND FIELD

#### TOWARDS ROME.—No. 5.

It is not to modern Rome alone, even though it contain St. Peter's, that the traveller turns with longing eye and heart. The grip of the mighty heroes of ancient days is upon him, and he must perforce follow where it leads. There is, perhaps, no place in Rome about which one's fancy lingers so much as about the noble ruins of the Colosseum. Each blade of grass, each simple flower adorning the crumbling masonry, seems baptised in blood. There the gladiators were "butchered to make a Roman holiday"—there, shrinking Christian matrons and timid girlish forms were torn and mangled by wild beasts, while Roman men and women looked on and smiled approvingly—there, St. Ignatius breathed his last in agony, and a whole "noble army" of martyrs were done to death by cruel heathen hands. The mind is well nigh lost in contemplating the exceeding vastness of this stupendous amphitheatre, the colossal size of which earned for it the name of Colosseum, and occasioned the prophecy mentioned in Childe Harold.

"While stands the Colosseum, Rome shall stand;  
When falls the Colosseum, Rome shall fall;  
And when Rome falls, the world."

Several of the flights of stairs leading to the galleries are remaining. I mounted one of these, and wandered round the huge ruins, gathering some of the 420 species of wild flowers, said by Dr. Deakin to find a home there; then I sat down, and dreamed of the terrible days of old. Presently I looked up. Beneath me, by the side of a cross, kneeling in prayer, was a little child, holding his mother's hand—no other figure presented itself in all the vast arena. It was a beautiful picture, that "Triumph of the Cross," seen from the gallery of the Colosseum. Insensibly the mind wandered back near eighteen hundred years, bringing vividly before one the record come down to us of the death in this amphitheatre of that "little child" whom our Lord presented to His disciples as a model of humility, and who grew up to be St. Ignatius, the disciple of St. John, and the bishop of Antioch. Tradition tells us that the Emperor Trajan, in honour of whom was built the column, called by his name, and still existing at Rome, being in Antioch, cited St. Ignatius before him for refusing to worship the gods. The bishop answered the charge by eloquently and fearlessly exposing the follies of paganism: he was condemned to be thrown to the lions, and ordered to be conducted to Rome to suffer with malefactors in the new amphitheatre there. We are told that St. Ignatius heard the sentence with joy, assisted in putting on his own chains, and set out on the long journey as one travelling towards home. Brought into the arena, he knelt, and exclaimed in a loud voice, "Romans present at this spectacle! know that I have not been brought to this place by any crime, but in order that by such means I may merit the fruition of the glory of God, for love of whom I have been made prisoner. I am as grain of His field, and must be ground by the teeth of the lions that I may be converted into bread fit for His table." The lions were then let loose, and devoured him, leaving nothing of his body but the larger bones, which the Christians collected during the night for burial. Hundreds of other Christians suffered within these walls as St. Ignatius suffered, so that each stone has a voice for Christians such as no other building in Rome can have.

No one but a dweller in Rome could understand the exceeding difference of temperature to be found within the six acres which comprise the arena of the Colosseum; it is this circumstance which makes its flora so very interesting to botanists. Within and upon its walls are to be found plants requiring dampness and dryness, warmth and coolness of soil and atmosphere for their development. The Cyclamens hederæfolium, europæum, and neapolitanum are to be found there; but the hederæfolium and europæum would be the most generally known, from their blooming in the spring, when English visitors are most drawn to the Colosseum to witness the processions of the confraternities to the stations erected round the arena by Pio Nono. The Asperula odorata adds its treasure of sweetness to the scentless beauty of the Anemone hortensis, while the Myosotis arvensis claims a familiar nod, together with the Borago officinalis, the latter so pleasantly suggestive of iced claret-cup

to thirsty sight-seers. The *Cerinth aspera* and the *Lithospermum purpureo-ceruleum*, both new plants to me in their wild state, hang out their banners from the walls, and for brilliancy of colouring—the one of yellow and the other of blue—they exceeded all other flowers that I found. I gathered the *Melilotus indica* in full bloom on April 15th, and as I write with the yellow Vetch-like plant before me, its sweet odour is diffused about the room. The *Melilotus indica* is called in Italy *ghirlanda*, or “garland flower,” because it was used by the Italians for making garlands wherewith to crown victors. Gruyere cheese is flavoured by this flower. *Melilotus italica* is also to be found. The *Muscaria racemosum* and *M. comosum* were still in bloom, though their beauty was nearly over. I often saw the former growing in fields where the *comosum* was not visible. There are only three Ferns to be met with—the *Polypodium vulgare*, *Adiantum capillus-Veneris*, and *Asplenium trichomanes*. I brought away a small root of the *Polypodium*, which grew in graceful fashion high on the walls; it is living, and has just put up two young fronds to repay me for my care; and what care did my Fern-basket not give me? At every custom-house the officials pounced on the poor basket with its leather handles, and ruthlessly tumbled out my little mummy-like bundles, and the tin boxes of bulbs, roots, &c. I wondered long why they showed such animosity towards my treasures, but at last I found out—they thought spirits were hidden there! Time would fail me to tell of all the plants and flowers abounding in the Colosseum—the Sage and Rosemary, the Olive and *Arbutus*, old friends and new friends, all gathered there to beautify these glorious ruins of a terrible past. To study them all as they deserve would occupy many days, and my time in Rome was limited, but I gathered every specimen that I could, and my wild-flower book is one of the pleasantest memorials of my visit.

From the upper galleries of the Colosseum the eye can take in much of ancient Rome—the Palace of the Cæsars, the Arch of Constantine (forming a link between Pagan and Christian monuments), the Baths of Titus, the Capitol, the Aventine, and the Campagna; but the mind fails to keep pace with the eye, so grand, so vast, are these records that rise like ghosts of buried ages on every side. Grand as the Colosseum is, it falls into comparative insignificance before the still vaster dimensions of the Palace of the Cæsars, where excavations on an enormous scale are being carried on under the auspices of the Emperor of the French, who purchased the ruins for £10,000, and by excavating is daily bringing to light more and more of the huge dwelling-place of the Roman Emperors. So great are these ruins, it is nearly impossible to conceive a picture of the whole. One sees, indeed, by ancient monuments daily disinterred, that this was the house of Tiberius—this, the addition made by Caligula—this, the Triclinium or banquetting-hall, with its very walls and floors of inlaid-marble work, and opening out from it the Nymphæum with its baths and trickling fountains, its Orange and Myrtle trees, with lovely statues reflecting themselves in the cool waters; and that this was the vast reception-hall where justice was given, having on one side an altar for the Penates, and on the other the Basilica (with its tribune and stairs still remaining), dedicated to Jupiter. One sees it all, but it is as one sees a dream. I close my eyes in the sweet sunshine, as is my wont, and go dreaming back. I see St. Paul after he had appealed to the Roman Cæsar, on his weary journey Romewards, met by his friends at the Appii forum, and at last brought to this very hall, standing before the tribune with his accusers face to face, as was the custom with the Romans. I hear him and other Christians condemned to death. I look up, and on every side see ruins side by side with Christian temples, and scarce one stone left upon another, to testify to the greatness of the past of that nation, who, from being the persecutors became the chief propagators of Christianity, verifying the saying, that “The blood of martyrs is the seed of the Church.”

How strange it seemed wandering amidst these ruins, now stopping to gather a few Violets from the almost sacred soil, now picking up an Orange fallen from the tree; so strange to be an eye-witness to heathen confirmation of Christian truth, in days when ruthless hands are trying to undermine all faith, and wicked men would fain persuade each other that written testimony is a lie. From the stern poetry of ancient days I turned to the graves of our own Shelley and Keats, who, after life's fitful fever, sleep peacefully in the English burying-ground at Rome. Shelley's grave was gay with flowers, and voices from England and America were speaking his name softly above his resting place. I gathered a few Violets and passed on to the

old Cemetery, overshadowed by the Pyramid of Caius Cestius, the only sepulchral pyramid in Rome, where, apparently forgotten and neglected, was the harp with its broken strings, with the few sad words left by Keats to be written on his tomb. “His name was writ in water.” I remembered the sweet grace of his poem of “Endymion,” and pictured to myself the moonlight stealing through the Cypress-boughs to wander caressingly over his sleeping dust. Not far from the grave of Keats I found some beautiful plants of the *Serapias cordigera*. I had never met with this handsome Orchid-looking plant before, and with my hands I grubbed up some roots, and I call them “Keats' Orchis.”

There is a touching story told (I think in one of Burke's books, showing the vicissitudes of families), of a botanist finding in some country walk a flower unknown to him. He asked its name from the country people about, and they said, “Oh, we call it Aylmer's flower” (I am not sure of the name). He asked, Was there any one of that name in the country round? “Oh! no.” Was it the name of any place in the neighbourhood? Again, no. The flower turned out to be one from the flora of the Holy Land. How had it found a home in that far-off nook? After much searching he discovered, that in the Crusades a knight of the name of Aylmer, after doing fierce battle against the Saracen, returned to his ancestral home in the county where the botanist had found the flower. The home, the family, all had become utterly extinct; all but the tiny flower that returned the grim Crusader's care, by carrying down to posterity the name of his ancient line. From the broken harp of Keats, I turned to the 114-foot-high pyramid, and spelling out the letters, C. Cestius, asked myself, “And who was he?” And the answer came, “Earth has no lasting fame but the influence of righteous deeds, that once done live for ever, passing on through succeeding generations, and found at last written in the hearts of men and angels at the bar of God.” Besides the *Serapias cordigera*, I brought away several bulbs of the *Ophrys aranifera himbata*, which was growing abundantly and in full bloom on the 14th of April.—*FILIX-FEMINA.*

P.S.—In No. 4 of my “Gleanings,” I inadvertently wrote “*Cyclamen latifolium*,” instead of “*C. hederifolium*,” the latter being the plant I found in the grounds of the Villa Pamfili-Doria, and not *latifolium* as I stated.

### PLANTING PEAS DEEP.

DEEP planting is not generally resorted to, under the impression that the seed will rot in the ground. This is a mistake. Peas covered 6 or 8 inches deep will produce twice as much as those covered but an inch; they continue to flower longer, and the vines are vigorous, and do not lie down, as is often the case where shallow plantings are made. We have tested this matter, and, therefore, know from experience, that if it is desired to get a large crop, the seed must be buried deep. A suitable piece of ground, enriched the previous year, was deeply ploughed in fall and spring, and put in fine tilth. One-half of the piece was marked out in drills, and the seed covered 2 inches deep. On the other half the plough was sunk beam deep and the seeds scattered at the bottom of the furrow. In this way one-half the piece was gone over and levelled, leaving the seed at least 8 inches from the surface. The Peas that were ploughed-in were a little longer in coming up, but they soon shot a-head of the others, the vines were thrifty and vigorous, and produced treble the quantity of those in two-inch drills by their side. The seed used was the Champion of England; the soil, time of planting and culture, except the manner of putting in, were precisely the same for both. This experiment convinced us that Peas flourish best in deep planting, and we have repeatedly had our attention called to the confirmation of this fact in observing different crops and learning the manner of culture.—(*Utica Herald.*)

[There is a moderation in all things. For main summer crops 8 inches we consider too deep, and 2 inches too shallow. The above example quoted from an American paper merely shows one of those fortunate results on which it would be unsafe to build a principle. The deep ploughing of the land, and the somewhat rough covering of the deep-sown Peas by the plough, so as to allow the air to enter, would be the chief reason why Peas sown at the depth of 8 inches came up at all so vigorously. We know instances, and have recorded them, where Peas sown deeply rotted, and never came up at all. If Peas are only covered 2 inches deep, such kinds as Champion of England,



scarcely have enough of support for their stems; from 3 to 4 inches would be better, in fine, deep-stirred, pulverised land. The chief securities against mildew are deep stirring and rich manuring, the manure being decomposed and sweet, and then sowing some 3 or 4 inches deep in a trench, and the Peas, if in a garden, may be gradually earthed-up a little for support. Our own experience would say, that in general 8 inches would be too deep. But for the deep stirring of the soil previously, we have little doubt it would have been so in the case quoted. The roots must have come up as well as gone down. It is more natural for the Pea to send its roots at once in a downward direction. We have traced them to a depth of 3 feet. If the seeds had been sown in ploughed land, not deeper ploughed than 8 inches, we would have expected the Peas to have made poor headway in the hard fare beneath them.—Eds.]

## THE ACTION OF METALLIC SALTS UPON THE GROWTH OF PLANTS.

SEVERAL years ago, when I was assistant to Professor Horsford, the Professor of Chemistry in Harvard University, he was consulted by one of the parties to an important lawsuit, where chemical principles were largely involved; and where the main question turned upon the action of copper fumes and scorïe on vegetation. We made many hundreds of analyses of soil, grass, bark, and moss from the neighbourhood of the copper-works, and finding copper everywhere, we undertook experiments in watering plants with solutions of copper, arsenic, and other metals injurious to their growth. Having kept no minutes of these experiments for my private use, this summer I made the investigations in poisoning of plants, which are given beneath.

A solution of sulphate of iron, of 8 grammes [123.4584 grains], for the half litre [0.88038748 pint], was taken as a standard, and solutions of acetate of lead, chloride of tin, sulphate of zinc, sulphate of manganese, sulphate of copper, and bichloride of mercury were made, of such strength that equal measures should contain equivalent (*not* equal) quantities of the respective metallic bases.

Seven *Triomphe de Gand* Strawberry plants, as nearly alike as possible, and seven small Cauliflower plants were transplanted into pots of uniform size, and, beginning on the 1st day of June, each plant was treated with 15 centimetres of the above-named solutions per day, and all the plants were watered with clear water twice a-week. The following are the results:—

1st. Strawberry plants subjected to the action of acetate of lead, no change till June 10th, slight blackness on stems; June 17th, stems a little decayed; June 23rd, two large and one small leaf remaining; July 2nd, two half-healthy leaves left. Cauliflowers with acetate of lead seemed wholly unaffected. July 2nd, strong and growing.

2nd. Strawberry treated with chloride of tin, no change noticeable till June 9th, stems blackened; June 17th, stems decaying; June 21st, stems more decayed; June 30th, entirely dead. Cauliflower plant treated with chloride of tin in perfect health, July 2nd.

3rd. Strawberry plant treated with sulphate of zinc, no change noticeable till June 10th, stems blackened; June 17th, outer leaves gone; June 23rd, one leaf remaining; June 25th, entirely dead. Cauliflower treated with sulphate of zinc, no change noticed till June 23rd, leaves shrivelled; July 2nd, entirely dead, having decayed rapidly.

4th. Strawberry plant treated with sulphate of iron, no change observed until June 10th, stem show slight decay; June 17th, outer leaves going; June 22nd, leaves black and decaying; June 30th, entirely dead. Cauliflower plant treated with sulphate of iron July 2nd, leaves slightly shrivelled, otherwise healthy.

5th. Strawberry plant treated with sulphate of manganese, no change perceptible till June 11th, slight blackness on stems; June 16th, apparently healthy; June 23rd, several leaves dead; June 30th, two healthy leaves left. Cauliflower plant with sulphate of manganese, unchanged till June 23rd, leaves shrivelled; July 2nd, leaves badly shrivelled.

6th. Strawberry plant with sulphate of copper, unchanged till June 10th, stems decaying; June 23rd, three leaves remaining; June 29th, entirely dead. Cauliflower plant with sulphate of copper unchanged till June 23rd, considerable decay; June 30th, rapid decay, almost dead.

7th. Strawberry plant with chloride of mercury, no change

perceptible until June 7th, stems blackened; June 11th, stems rapidly decaying; June 17th, outer leaves dead; June 19th, whole plant entirely dead. Cauliflower plant with chloride of mercury, no change observed until June 17th, somewhat affected; June 25th, badly decayed; June 28th, entirely dead.

These experiments are interesting from one point of view as showing how much better Cauliflower plants can resist poisonous agencies than Strawberries, and what is true of the Cauliflower will probably hold true of all plants of its class.

The action of the corrosive sublimate was most rapid, as may have been foreseen, but how a Cauliflower can grow when daily watered with a strong solution of sugar of lead is mysterious.

The action of the iron and copper salts was about the same, although it might have been supposed that copper would act more energetically than iron.

The first signs of decay were blackening of the stems, then the stems wilted, and last of all the leaves shrivelled. The base of the stem in all cases was affected first. The roots were black and dead. I trust some reader of the "*Horticulturist*" will continue these experiments on other plants and give us his results. I should suggest the use of weaker solutions, so that the experiments might occupy a longer time, and slighter changes in the health of the plants be noticed.—(J. M. MERRICK, JUN., *Walpole, Mass.*, in *Horticulturist*.)

## GROUND VINERIES.

"J. N." (page 187), by introducing a door at the apex of each span would provide a current, particularly when the sun was fully upon these narrow ridges of glass. I do not think, besides, that a small board attached to the top, with hinges and a hasp to keep it up to any point, would be more expensive than the end ventilation, and it would be more easy to let this down at once than going to each end of the cases. In my notice it reads, "Take them off," but my meaning was to take the air off at midday when the rise of temperature could do no injury. Mr. Heywood's Vines are trained as suggested by "J. N.," but in my opinion a great deal more is to be done by having no direct air whatever, but introducing it by any of the geothermal systems now so well known, and thereby using the air as a heating medium. I hinted that allowing the air to pass through brick rubbish would be an advantage, but the further it travels through this in reason the warmer it will become. I have seen Mr. Rivers's Vines and those of several others since I wrote that notice, and none of them are so successful with their Grapes as Mr. Heywood, who has them by the stone and hundredweight.—J. F.

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

*LIPARIS ATRO-PURPUREA* (Dark-purple-flowered *Liparis*). *Nat. ord.*, Orchidaceæ. *Limn.*, Gynandria Monandria.—Terrestrial Orchid. Not showy. Native of Ceylon.—(*Bot. Mag.*, t. 5529.)

*PHALANOPSIS SCHILLERIANA* (Schiller's *Phalanopsis*). *Nat. ord.*, Orchidaceæ. *Limn.*, Gynandria Monandria.—On high elevations in the Philippine Islands. White, rayed with pink.—(*Ibid.*, t. 5530.)

*ALSTREMERIA DENSIFLORA* (Dense-flowered *Alstroemeria*). *Nat. ord.*, Amaryllidaceæ. *Limn.*, Hexandria Monogynia.—Native of Peru, at elevations of from 6000 to 11,000 feet. Flowers scarlet, in an umbel.—(*Ibid.*, t. 5531.)

*HEMANTHUS INCARNATUS* (Flesh-coloured *Hemanthus*). *Nat. ord.*, Amaryllidaceæ. *Limn.*, Hexandria Monogynia.—Native of South Africa.—(*Ibid.*, t. 5532.)

*LANKESTERIA BARTERI* (Mr. Barter's *Lankesteria*).—*Nat. ord.*, Acanthaceæ. *Limn.*, Diandria Monogynia.—Native of Western Africa. Flowers yellow, in spikes.—(*Ibid.*, t. 5533.)

*EUPHORBIA MONTEIRI* (Mr. Monteiro's *Euphorbia*). *Nat. ord.*, Euphorbiaceæ. *Limn.*, Monœcia Monandria.—Native of South-west Africa.—(*Ibid.*, t. 5534.)

*PELARGONIUMS*.—*William Hoyle*.—The darkest *Pelargonium* ever yet raised. Lower petals deep brownish crimson, white throat; upper petals deep maroon edged with crimson. *Charles Turner*.—Brilliant scarlet, white throat; upper petals dark maroon, with a broad rim of scarlet. Both the above were raised by Mr. Hoyle, of Reading, and are in the hands of Mr. Turner, of Slough.—(*Floral Mag.*, pl. 257.)

*ROSE Princess Mary of Cambridge*.—Raised by M. Granger

from Duchess of Sutherland crossed with Jules Margottin; pale rose with bright centre. Messrs. Paul & Son, who have purchased the stock, state that it is remarkable for its hardy habit and good autumnal properties.—(*Ibid.*, pl. 258.)

**LORELLA CORONOPOLIA.**—Received by Messrs. Backhouse, of York, from the interior of Caffraria. When grown out of doors in summer it forms a dense tuft, bearing flower-stems from 4 to 6 inches high, each with from three to five or six blossoms, blue, faintly tinged with violet, and remaining in perfection many weeks.—(*Ibid.*, pl. 259.)

**BOUGAINVILLEA LATERTIA.**—Delicate salmon pink bracts, forming a pretty contrast with the mauve-coloured bracts of *B. speciosa*. Obtained by Mr. Daniels, gardener to the Rev. C. E. Ruck Keene, Swyncombe House, Henley-on-Thames, and now in the hands of Mr. Bull.—(*Ibid.*, pl. 260.)

**AXEMONE ANGULOSA.**—“It is a native of Hungary, and is one of the many beautiful hardy spring flowers which the Messrs. James Backhouse & Son, of York, have been fortunate enough during the present year to bring under the notice of the London public. The Floral Committee of the Royal Horticultural Society awarded it a first-class certificate; and a double-first, if it could have been given, would not have shown too high an appreciation of its merits. The habit of this species is exactly that of the allied *A. hepatica*, but the plant itself, as well as its parts, are all at least twice the size of that. Thus, the leaves are fully 3 inches broad, three-lobed, but having the lobes coarsely and rather deeply crenato-dentate. The flowers are upwards of 1½ inch across, of numerous oblong lance-shaped spreading sepals, and of a fine clear greyish blue, set off by the array of numerous black anthers, which surround the tuft of yellowish styles. It is doubtless one of the finest hardy plants of recent introduction.”—(*Florist and Pomologist*, iv., 185.)

## TODMORDEN BOTANICAL SOCIETY.

SEPTEMBER 4TH.

Mr. HOLMES in the chair. W. Manley Eastwood, Esq., of Eastwood, and Mr. Josiah Wade, of Hebden Bridge, were elected members. Notwithstanding the absence of the President, Vice-president, as well as several others of the Society, on the Silverdale excursion, the attendance at this meeting, considering the season, was quite an average one. Mr. James Hartley, of Heptostall, a young but most enthusiastic and successful collector, contributed specimens of a curiously depauperated form of the common Brake (*Pteris aquilina*); the lower portion of the frond, in the example alluded to, had the pinnules of the usual shape and character, but in the terminal portions the pinnule were either wanting, or so diminished in size, as to amount to little more than a number of small excurrent points; the group of which the frond in question formed a part, was reported to be uniformly of the same character. Mr. A. Dawson, of Knowl-top, Walsden, sent an interesting dish of the Cowberry (*Vaccinium vitis idææ*), and evidently including both the species and the variety *majus*. The berries were accompanied by a note from Mr. Dawson, who stated that the examples sent had been gathered from cultivated plants, and had been yearly loaded with fruit for several seasons back, whereas those in a wild state in the original locality had been almost uniformly barren during the same period. An interesting communication was read from Mr. Rogers (one of the Manchester associate members) on the botany of Ben Lawers and some other parts of Scotland. Of the more rare plants enumerated as being collected by Mr. Rogers, we may name *Pyrola secunda*, *Cornus suecica*, *Cherleria sedoides*, *Cerastium alpinum*, *Betula nana*, *Malaxis paludosa*, *Menyanthes arvensis*, *Saxifraga oppositifolia*, *Sedum rhodiola*, *Thalictrum alpinum*, *Trientalis europæa*, *Polystichum lonchitis*, *Lastrea alpina*, *Lastrea Filix-mas* var. *pumila*, *Polypodium phlegopteris* var. *laciniatum*, *Lycopodium annotinum*, *L. inundatum*, several good Mosses, &c., &c.

## ENTOMOLOGICAL SOCIETY'S MEETING.

THE September Meeting of the Entomological Society was held on the 4th inst.: F. Smith, Esq., Vice-President, in the chair. Donations to the Library were announced from the Smithsonian Institute of the United States, the Royal Academy of Belgium, the Entomological Society of Stettin, Messrs. Saussure, Sichel, Cresson, &c.

Mr. F. Bond exhibited some interesting specimens of the common Heath Moth, *Fidonia atomaria*, a species in which the colours and markings of the wings are different in the opposite sexes; the individuals exhibited being a pair, male and female, in both of which the ordinary colours of the male were seen; and in a second similar pair the female colours and markings were present; likewise a male *Gonepteryx rhamni*, in which a portion of the left fore-wing was coloured as in the female, and a female in which the colour of the male was present in a portion of one fore-wing; likewise some specimens of the rare Moth, *Ennychia anguinialis*.

Mr. McLachlan exhibited some rare Neuropterous insects from Rannoch (Perthshire)—namely, *Æshna borealis*, *Sialis fuliginosa*, (Pictet), *Stenophylax*, nova species, and *Rhyacophila*, n. sp.

Professor Westwood mentioned a peculiarity he had observed in the economy of the caterpillars of the *Ailanthus* Silkworm, previous to their changing to the pupa state. He also gave an account of the Exhibition of economic entomology, beneficial and destructive insects, with illustrations of their ravages, Silkworms of various kinds, bee-hives, wax, and other insect-products, which was opened on the 15th of August, at the Palais d'Industrie, in the Champs Elysées, Paris. Among the newest bee-apparatus, was mentioned an octagonal larvæ-hive of wood, made in two halves exactly fitting together, so that when the hive is full it can be divided into two parts and empty halves applied to the full portions, thus preventing ordinary swarming.

Mr. Dorville exhibited a common Moth, *Caradrina cubicularis*, attacked by a small red species of *Acarus*, of which a number were arranged symmetrically on the under surface of the wings.

Mr. Stainton also noticed the great numbers of Cheliferidae, which he had observed this summer attached to the limbs of flies. Dr. Hagen had supposed that this was for the purpose of transport, but Mr. Stainton considered them to be real parasites.

Mr. Baly stated, that in the neighbourhood of Aberdeen great numbers of Wasps had appeared this summer; but a letter was read from Mr. S. Stone, of Brighthampton, giving an account of an epidemic which had attacked the Wasp nests in Oxfordshire, and which had entirely destroyed large numbers of them, so that scarcely a single Wasp had arrived at maturity. Earwigs also, which had been extremely numerous, had got into the nests and devoured great numbers of the larvæ.

Mr. F. Smith stated that he had not observed a single Wasp whilst collecting Hymenoptera, at Bournemouth, where last year they were extremely numerous; and Professor Westwood read a letter from a correspondent, giving an account of the injury committed in a common bee-hive by vast numbers of Earwigs, what had got under the cover of the hive.

Mr. Stainton exhibited some pods of *Epilobium montanum*, attacked by the larvæ of *Laverna subbristigella*; and Mr. Kirby a specimen of *Polyommatus Alexis*, measuring only 8½ lines in the expansion of the wings.

Mr. Stevens exhibited portion of a collection of insects recently made in Damarra Land, South Africa, including several rare kinds of Goliath Beetles.

Mr. F. Bond communicated a notice of some swarms of winged Ants, which had appeared round the steeple of the church of St. Morris, at Coburg, and had been mistaken for smoke issuing from it, so as to have caused great alarm among the inhabitants.

Mr. Wormald also stated, that he had noticed a similar instance of flights of Ants in vast numbers.

An account was also communicated of the poisonous attacks of a species of black Gnat on horses, mules, &c., in South America; as well as Sir Gardiner Wilkinson's account of the poisonous attacks of the Fly named Zebab in Upper Egypt.

**PRODUCTIVE OLD PEACH TREE.**—I have an old tree of the Late Admirable under my care; it occupies 240 feet of south wall. I have this year 480 Peaches on it, all fine fruit. The tree is loaded from the bottom to the top. The stock is 22 inches in circumference, and some of the arms are 14 inches round and in a half decayed state.—G. PHILLIPS, *The Gardens, Crowcombe Court, Somersetshire*.

## FORMS OF OUR FRUIT-HOUSES.

THIS subject is one that always attracts attention, and yet there are remarkably few experiments tried with regard to their construction. What causes this it is difficult to tell; and yet I think I am warranted in saying that few experiments are tried, or we should find the result; for fruit-house building cannot be supposed to be the one exception that proves the rule, and obstinately refuses to advance. In writing this letter I am aware that I am not, as the phrase goes, stroking the gardening world the right way. I learned to think before I gave my attention to gardening, and if I do not think like those who learned gardening first, I cannot help it; and pray excuse my accepting the dogma, that what is, is right. Let me, then, as an outsider, throw out a few remarks. I want to advance the gentle craft as much as any one. Is it not true, that if I leave out the application of hot water, our Pine-pits are such as Mr. Le Cœur used in 1724? that our Pine-houses are—I was going to say the exact measure—but I will only say substantially the same as Miller gives in his “Gardener's Dictionary,” more than a hundred years ago? and I may say the same of our glassed-in Peach walls and lean-to houses. When our foreign friends visit next year, as is proposed, our great



gardens, and I may include, if the account I read is correct, the royal garden, scarcely, if yet, finished, will they not look in vain for fruit-houses built on any other plan than those I have named? Each time I read an old book on the subject I rise with the feeling, Can it be there is nothing new under the sun? and then I ask myself the question—How is it, with cheap glass and a greatly increased command of heat, that we go on building the same sort of houses? and wonder that we, the most commercial nation, as it is said, have actually retrograded, and by growing our Vines and Peach trees under the glass in lean-to houses, get the least result with the greatest cost? Should not our aim be—the greatest number of square feet of pit or trellis, as the case may be, for the lowest cost, and to suit the cultivation to the shape?

The cheapest shape points, unquestionably, to large, square,

tall houses; but when I advocate such, I am always told that nothing can be grown in them but tall orchard-house trees; and as "the Eden-like pleasure of walking about under the shade of my own Vine and Fig tree" does not chime in with my commercial notions, I had no course left, as I concluded the present shape was induced by necessity at some period, but to try and find out that cause, and so be able to judge if it still existed. I have not been able to find this cause, but, on the other hand, a great deal to lead me to believe none ever existed. As I have said, I consider growing Vines and Peach trees under the glass a retrogression. I have two things to prove: that it was not formerly done, and, that it is a mistake. The following is Miller's description of what he calls a "dry forcing stove" for forcing Vines, Peach trees, &c.:—"The area is to be filled with rich earth 2 feet deep, in which the trees are planted to remain, having been first trained in the

open ground till they are in a state for bearing; they are planted in straight or oblique lines from the back to the front, the tallest behind, and are trained against the back wall and front to a trellis, and in the area as espaliers." "These stoves begin to be worked in January or early in February." The house here referred to was a lean-to; no dimensions are given, so I conclude we must refer to his greenhouse plan, where he advises from 20 to 24 feet wide. The front is shown as the same height as the doors, and if we assume they were 7 feet high, there was sufficient height for a tree. The last edition of Miller's dictionary was published in 1768.

Let us now turn to Mr. Speechly, in 1790. He advises a lean-to house with a flued wall at the back of from 12 to 14

feet high, and the width of the house to be 10 feet, and says, "In regard to the future management of the Vines at the rafters, it should be observed, that though it will not be absolutely necessary to adhere invariably to the rule laid down of annually cutting every other Vine down to the bottom of the rafters, yet it will be proper to keep these Vines from extending too far over the glass frames, and thereby shading the house, which would tend to injure the Vines on the back wall. It should be considered that the success of the Vines trained against the flued wall is the first and principal object."

I may here say, that a few months since I received a letter from a friend in the south, asking me for some information about pipes and boilers, saying, "My gardener wants me to put pipes into my house, but as I have as many and as good Grapes as my neighbours who have pipes, I do not see the

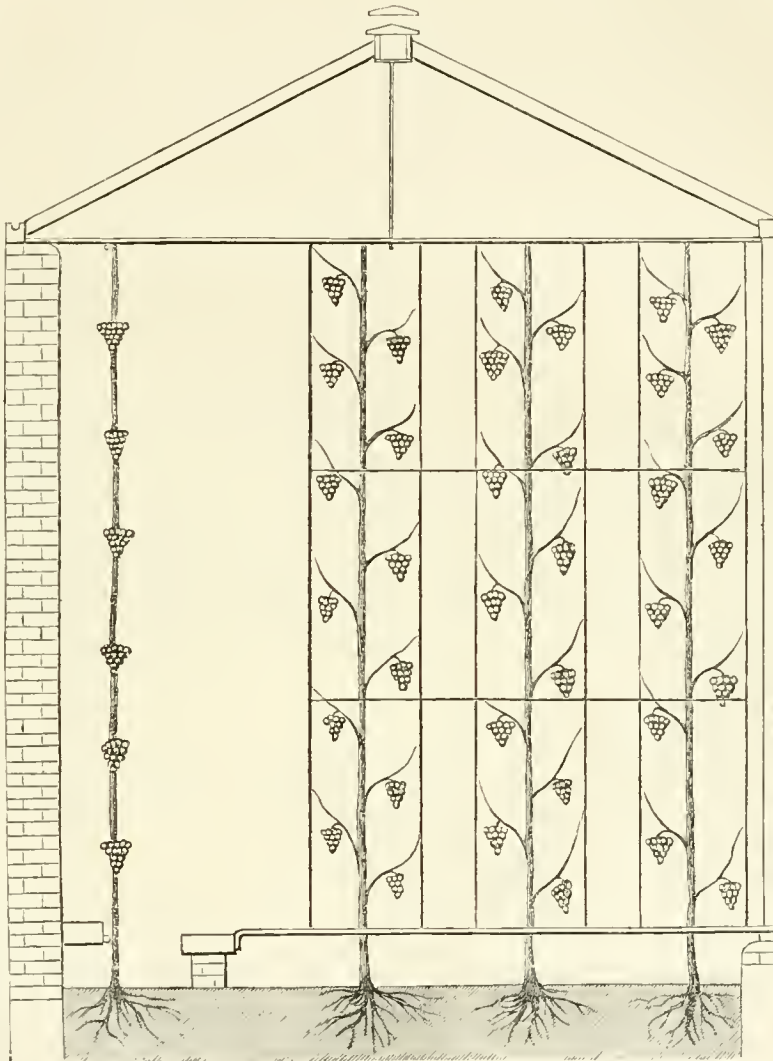
good of it; can you explain how it is?"

I wrote him back in reply, to say, I had very little doubt his neighbours grew their Vines under the glass, and thus as the sun's heat increased the leaves also got larger and formed a green blind, keeping the rays out. I added, "If you intend to grow yours in the same way you will certainly require pipes also." I subsequently heard that it was a lean-to house, but the Vines were planted against the back wall, the front being used for pot-fruit trees.

About four years ago I visited, I may safely say, our most famous garden, that I might see the glass walls; and when there I asked the gardener, who took me round, why they were built so narrow; for the cost of a little more roof the houses might have been twice the size. The answer was, "But how could we train the trees?" The same year I was up in London, and stumbled on a lean-to Peach-house, where the trees were trained to a trellis against the back wall, and, as Miller says, "in

the area, running from the back to the front, on espaliers." When I returned home I put up a house in this manner: back wall and front glass, each 10 feet high; width, 12 feet. Now for the calculation. In the back wall, 52 feet long by 10, = 520 square feet; then I have a trellis 8 feet wide, running at right angles to the glass at each 4 feet;  $8 \times 10 = 80$ ,  $\times 13$ , the number of the trellises, = 1040; add 520 in the back wall, and I have 1560 square feet of trellis in a house 52 feet by 12; granted there is not much room for ladies, but there is sufficient for gardeners.

Let me recommend this plan of front trellisses to Mr. Bréhan, he complains that his bush trees are unmanageable, and I think it will make his house look more gardener-like.



Mine has a south aspect, and the sun pervades the whole house, and not without result, I can assure you.

Then, of Vines. I have a span-roofed house, 20 feet wide, that does not please me, and to which I intend putting fifteen-foot sides. The Vines are planted 2 feet apart, and I shall back every other, which will result in my having four rows of Vines, each Vine being 4 feet from its neighbour, and the light will be free to enter from the top and all the sides. I should very much like to know how many feet of rod and how many spurs are required for each show bunch. I think my Vines will have at least double the number of spurs per foot of rod that they have now, and we are sure that means capacity for work, and yet the house, as it is, is better than a lean-to.

Have we not, then, been following this one idea—that nothing will succeed well that is not trained under the glass—too long and to our great loss? and is it not time, in this our practical age, to begin to take cubic measure into account? A house with a back wall 15 feet high, and 15 feet wide, treated as a lean-to at an angle of 45°, gives a front of 21 feet; if 50 feet long, it contains 1050 square feet of trellis. On my plan, as shown by the section, the back wall, 15 by 50, would contain 750 square feet, eleven front trellises 5 feet apart and 9 feet wide;  $9 \times 15 = 135$ ,  $\times 11 = 1485$ ; add 750 and it makes 2235 square feet of trellis. Compare this with 1050, and how many will regret that good old plans of gardening were ever departed from?

It is said, those who run may read; and any one who talks about plants being drawn, because they are far from the glass, will not be listened to in these days when we can see for ourselves at Sydenham and Kew.

In closing this letter, I may say I have no interest to serve in recommending a particular form of house; but, as a fruit-grower, who has learned much from the perusal of your valuable paper during the last eight years, I desire, if an anonymous letter can carry weight, that my experience should be at the service of those who are intending to build fruit-houses, and as the most certain way of placing it before them I send it to you.—G. H.

### CUTTING-IN SHRUBS ANNUALLY.

In my garden I have a Sumach, which was as I thought dying, so I cut it down to a stump about 3 or 4 feet high. Next year it shot up and produced some fine foliage; I continued cutting down to the stump each year after the leaves had fallen, and it has in each improved both in appearance and size of foliage and branches. This year is the best year of growth it has had, and it far surpasses all I have ever seen of the sort. The growth from the stump this year is from 5 to 6 feet, and the stems the leaves grow on are about 4½ feet long. I enclose a leaf which is about half a foot long. Several of my neighbours have trees, but have not cut them down; there are also a few at the Botanic Gardens, Liverpool, but not cut; they have but small leaves in comparison to my plant. The soil in my border is the common garden soil, rather stiff. I shall feel obliged if you will give your opinion on this subject.—A SUBSCRIBER, *Liverpool*.

[Many shrubs and plants would be greatly increased in vigour if they were cut-in every year much the same as is done with a Willow stool. No doubt if mere size of foliage is desirable, the young shoots thus formed will yield large leaves, until the stool is exhausted. Are you quite sure, however, that the leaf sent is the leaf of a Sumach? if so, it does not belong to the commoner kinds found in gardens, and more resembles *Rhus venenata* than any we know. If so, the leaves before they drop will become of a purplish red colour. This, and some others which the smooth leaf would seem to point to, are very poisonous, and, therefore, if a Sumach, you must be careful in the cutting, that none of the juice get on your hand.—EDS.]

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

EARTH-UP the Broccoli plants as they advance, this greatly promotes their growth; also earth-up other plants that require it. Keep a watchful eye for the caterpillars; as soon as they are observed have them gathered off by hand, this being the only sure means of extermination. Cabbages, the main spring crop may now be planted, the small dwarf sorts at 18 inches row from row and 20 inches in the row. A double quantity

may be planted in the rows, so as to admit of thinning-out every other one in the spring. *Cauliflowers*, prepare the ground for the plants which it is intended to protect with hand-glasses, the soil should be rich, and, if possible, under a south wall; nine plants may be planted under a good-sized hand-glass, and in the spring five or six of them may be taken away, and planted elsewhere. *Carrots*, sow a few Early Horn in a sheltered place to stand the winter. *Celery*, the first earthing of a crop should not take place until it has made considerable progress, by commencing too early it is drawn up weakly; the earth should be closed round the stalks with the hand. *Cucumbers*, the heat of the bed containing bearing plants must not be allowed to decline, or they will not continue productive, whereas by proper attention they will produce fruit till Christmas. Dung should now be procured, and prepared for beds next month. *Dwarf Kidney Beans*, if a supply is required through the winter a sowing should now be made in pots half filled with soil, which allows of the plants being earthed-up. *Endive*, tie-up for blanching when the plants are quite dry, or lay a tile upon each plant; another plantation may also be made. *Globe Artichokes*, cut off the stems as fast as the heads are used. *Mushrooms*, the beds recently made must be spawned immediately the heat has become moderate; when earthed they should be well beaten down, as solidity is one of the principal causes of productiveness. *Salading* should now be raised under a hand-glass, or in boxes placed in a forcing-house; to keep up a constant succession a sowing should be made three times a fortnight.

#### FRUIT GARDEN.

Look over wall trees, and cut off all foreright breastwood, or what are commonly called after-shoots. Strawberry plants in pots must not be allowed to become very dry, nor ought they to be drenched with too much water. Gather carefully and progressively the various Pears and Apples as they arrive at their full growth. Discard at once bruised fruit, its possession entails ultimate trouble.

#### FLOWER GARDEN.

See that the faded blossoms and seeds are regularly removed from beds, other blossoms will be thus encouraged; much of the vital energy of a plant is expended in the perfection of its seeds. Borders deficient of Snowdrops, Crocuses, Narcissus, and other such early spring-flowering bulbs should have some introduced. Tender plants which it may be intended to winter for use next season must soon be taken up and placed in safe quarters. Plants, however, which are still in good condition may be left for some weeks longer. Variegated Geraniums will not bear much frost, and when the plants have to be wintered in situations which are not very suitable for them they should be taken up before they are at all injured, as they will be much more liable to damp and die back in winter if the wood is at all touched by frost. Except when there is a sufficient stock of these they should not be cut back as is usually done with the old scarlets, but should be kept over the winter just as they are lifted from the beds, and cut back early in the spring after starting them into growth, when the cuttings will root very freely in heat, and in the case of Flower of the Day or any other free growers, will make useful-sized plants by turning-out time; and even the strongest growers of these do not cover a bed very quickly unless planted thickly, and the plants, therefore, should be wintered in as large a state as the accommodation will permit. The autumn-rooted stock of *Verbenas*, &c., must be well attended to, keeping them perfectly clear of green fly, exposing them freely to the night dews, and keeping them hardy, in which state they will be much less liable to fog off under a week or two's confinement in winter than if they were kept in a growing soft state until overtaken by severe weather. Plants which are not sufficiently established must, however, be treated somewhat more kindly, for there is but little chance of carrying such over a severe winter unless they are at least well rooted, and these might with advantage be placed upon a gentle bottom heat to encourage the roots, but do not keep the atmosphere close and moist, for growth should not be encouraged after this season.

#### GREENHOUSE AND CONSERVATORY.

The principal and most desirable object in the management of greenhouse plants, is to obtain a robust and hardy growth, and at this time to accommodate them to the changing influences of the season by lessening their vital action by free ventilation, and by the gradual and judicious curtailment of water. The great business here will be to house the more tender sorts of plants in good condition, the pots to be rubbed



clean, and search to be made for worms when their casts appear on the surface of the soil. Sometimes the soil is so porous with worm-holes as to render repotting necessary, and this should be done at once. Any moss or weeds on the surface of the soil in the pots to be removed, and the soil fresh surfaced if needed. If any indications of worms appear in large tubs, or large pots, which are more unmanageable, an application or two of lime water will banish them. When housed all the air possible to be given in fine weather, even to the entire withdrawal of the lights, only reducing the ventilation when unfavourable changes in the weather take place. Each plant to be allowed sufficient space for the air to play freely around it.

#### STOVE.

This house to be tastefully arranged, and heat and humidity to be diminished by degrees in accordance with the decline of solar heat. All plants that require it to be top-dressed, and all imperfect drainage to be corrected, more especially the established plants that have been repotted for a considerable time.

#### PITS AND FRAMES.

The sooner the Hyacinths and other bulbs for forcing are potted the better. The principal cause of success is having the pots filled with roots before the top growth commences. The bulbs to be selected for weight or substance in preference to size, to be potted in half leaf mould, or decomposed cowdung, and half loam, with a sprinkling of silver sand. The quality of the soil is not of primary importance, as the flower-stalk will depend in a great measure upon the organised matter stored up in the bulb and brought to perfection under the favourable influences of heat, light, and air. The bulbs when potted should be placed in a fame or pit, and covered with 6 inches of dry sawdust in preference to coal ashes. When the pots are filled with roots and the heads begin to sprout, the potted bulbs should be taken out of the plunging material and treated with a supply of heat according to the time when they may be wanted in bloom. They grow stronger and bloom larger when gently excited by heat and supplied with air. Pot Neapolitan Violets, and let them be plunged in a frame. Lily of the Valley for forcing should now be potted.—W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

A CONTINUATION of the same glorious sunny weather has made us resort to our sewage-tank to give a lift to Peas, Lettuces, and Cauliflowers; and weeds have been again well cleared off, the hoe and the bright sun soon putting all that were to be seen out of view. If this weather continue we shall slightly shade our Celery. At present we are allowing some withered rows of Peas to remain, on account of the shade which they afford. Gave sewage water to Globe Artichokes to keep them longer in producing, as the great heat is apt to stop the formation of nice young heads. Spawnd Mushroom-beds, and earthed-up, and smoked the Mushroom-house with sulphur, and will have all washed and lime-washed before making beds in it.

We are sorry to say that the Potato disease is manifesting itself much in this neighbourhood. We fully expected it to appear among the late kinds after such a course of wet, muggy, sunless weather; but what all along has been most unaccountable to us is, that early kinds, and from magnificent crops that were taken up before the rains came, and harvested in first-rate condition, mostly intended for seed, are now going bad—that is, a considerable number of them, though until lately not a single speck appeared upon or among them. In the gardens and fields it is lamentable to see the best and largest Potatoes left behind unfit for any use. We think that cottagers are wise in demurring to give such diseased samples to the pigs; for in these days of murrains and cattle plagues people cannot be too careful, and the pig-distemper last year was a great loss to many a cottager as well as to the farmers. In some farms not a pig was left, but all died, and within a few days of each other. Many a labourer was put to great straits who depended on his pig as a help to meet the demands of rent-day.

Here we would remark that in many places in the country it would be an act of true charity and kind feeling to take the rents of cottagers much oftener than once a-year. If once a-year cannot be departed from, then shortly after harvest would be the best time, as then working people are generally best supplied with means; and when these means are plentiful there is a great temptation to spend what ought to be rigidly

set apart for rent-day. Demands that might easily be met in September or October can often be very ill met in December. We have met with some sad cases of wretchedness, and illness, and fevers produced by next to starvation in winter, because the year's rent had to be ready at that time, and to get it, or most of it, husband, wife, and children did not have nearly enough even of bread. It is of little use to talk philosophically about saving up to such people; for if such hard knocks will not prove an efficient schoolmaster for the future nothing else can be hoped to be effectual; and we have too much evidence that even these hardships will fail to convince, as again and again the plenty, and even the indulgence of luxuries and fine things in autumn, will be followed by the same scraping, and screwing, and pinching, and next to starvation in winter, to meet the rent-day about Christmas. Did such individuals alone suffer even then it would be lamentable, but it becomes more serious when the diseases and low fevers thus engendered are so apt to sweep over a hamlet or village. Much may be done by landlords ensuring payments at shorter intervals or more suitable times. With a diminished supply of Potatoes and the high price of meat, most labourers will need all possible preparations to lighten the weight of the coming winter.

Gave Celery a good watering previously to earthing it up, tying it up previously, and only earthing-up what will be wanted in three weeks or a month. General work much as in previous weeks.

#### FRUIT GARDEN.

Went over Apples and Pears, gathering the ripest before they fell, and put some kinds of Pears in a warm place to ripen them more quickly when wanted. Our Williams' Bon Chrétien has done us good service for several weeks, and we have still a few gathered quite hard and green, and some others on a tree harder and greener still, that will be prime a fortnight hence. Such Pears should never hang until quite ripe, for then they will be sure to be flat and mealy, instead of crisp and juicy. Birds have pecked our Marie Louise and others a little, but they have left us lately, and the chief annoyance proceeds from clouds of large flies. On a white wall the other night they actually blackened it, and Nectarines they will attack by hook or by crook. Peaches they meddle little with, which is so far good; and we have not noticed they have troubled late Strawberries at all. A few more swallows and other insect-eating birds would be an advantage. We see more and more that there is a law of compensation in these matters, and though it is rather annoying to find the best fruit pecked by birds, we believe that without them we should soon have no fruit at all. If the little fellows would only be moderate we would pepper them no more with shot, as the gun always detracts from the calm interest of a garden, and far less would we trap or poison, as both these systems are more cruel than shooting them at once. Who will invent a trap that for all things called vermin shall insure death instantaneous? Who with a particle of kind feeling could sleep comfortably with the thought that some living thing was writhing for hours, maimed and mutilated by the teeth and claws of a trap?

Gave a good watering to orchard-house, from which all the fruit is gathered, except some Figs in pots. Syringed the house, and shut up early to harden the wood, and also to ripen the Figs. Owing to keeping the house so open the Figs are not so forward as those out of doors, which have come in nicely, and will fill the gap between the succession crop in the Fig-pit. Gave also second orchard-house a good watering, and have sprinkled the surface frequently to keep it cool for the later Peaches. In the first house we planted some Vines, but we hardly know whether we shall be able to keep them without turning out some of the Peaches in pots beneath them. Here we have, so far, met with a disappointment. We made sure we could ripen Buckland Sweetwater in such a house, and therefore planted three Vines of it and some later sorts, which we wanted to hang, if ever we should heat the house. There has been a little bit of fruit on all these Sweetwaters, but to our annoyance they turn out to be Chasselas Musqué, a beautiful Grape, but liable to crack, and not what we wanted. Even now, though not quite amber-coloured, the flavour is delicious, and the flies know it as well as we do. What surprises us, not a berry cracked until the flies cracked them. We are inclined to leave some of the plants for another year, and as the bunches take the last swelling, encase these in very fine muslin to keep the flies, &c., from them. We find, even now, that the skin is so tough that they have considerable difficulty in penetrating it; but then they disfigure the berries left with perambulating over them with their dirty feet. The Vines

are planted rather elevated, and have no great room. If such a Grapo could be secured from cracking, few would beat it for rich flavour. We have had very good bunches in ainery, where the roofs were covered with glass, after the second swelling, and plenty of air given. For Strawberries, vineries, &c., see previous week's directions.

#### ORNAMENTAL DEPARTMENT.

The chief work has been machining part of the lawn near all the flower-beds—the machine making beautiful work, and proceeding with cuttings of Geraniums in a wholesale way. We always decline taking them very early, as it always, less or more, interferes with the beauty of the beds and their regular outline. We were forced to water some Calceolaria-beds. The Geraniums stand the heat well; but even they would be the better of being watered, as, if this weather continue, and should be followed by heavy rains, the most of the bloom will be destroyed. If the rains come after some moisture is thrown into the stems, the trusses will stand the change much better. Such kinds as Trentham Rose needed a good deal of picking. See Mr. Robson's article on plants that stand best. We want more upright and spiral plants, as Pentstemons, &c., to contrast with flat-headed flowers. Of this more presently.—R. F.

#### COVENT GARDEN MARKET.—SEPTEMBER 16.

The continued hot weather causes heavy supplies of both fruit and vegetables, and of Pears especially. Many of the later sorts are brought to market quite fit for use. Among such are Louise Bonne of Jersey, Duchesse d'Angoulême, and Glon Moreau. This augurs badly for the winter supply. Foreign imports are very limited, with the exception of Grapes, which are coming in in large quantities. Potato market heavy at last quotations. A great quantity turn out badly diseased.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... $\frac{1}{2}$ sieve	1	0 to 2	Melons..... each	2	0 to 5
Apricots..... doz.	0	0 0 0	Mulberries..... punnet	0	6 1 0
Cherries..... lb.	1	0 2 0	Nectarines..... doz.	0	0 0 0
Chestnuts..... bush.	0	0 0 0	Oranges..... 100	10	0 20 0
Currents, Red $\frac{1}{2}$ sieve	0	0 0 0	Peaches..... doz.	3	0 8 0
Black..... do.	0	0 0 0	Pears (kitchen)..... doz.	1	0 1 6
Figs..... doz.	0	9 1 6	dessert..... doz.	1	0 2 0
Filberts..... lb.	0	9 1 0	Pine Apples..... l b.	3	0 6 0
Cobs..... do.	1	0 0 0	Plums..... $\frac{1}{2}$ sieve	1	0 3 0
Gooseberries..... $\frac{1}{2}$ sieve	0	0 0 0	Quinces..... $\frac{1}{2}$ sieve	3	0 4 0
Grapes, Hambro..... lb.	1	6 4 0	Raspberries..... lb.	0	0 0 0
Muscats..... lb.	3	0 6 0	Strawberries..... lb.	0	0 0 0
Lemons..... 100	8	0 14 0	Walnuts..... bush	14	0 20 0

#### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	4 to 0 6	Leeks..... bunch	0	3 to 0 6
Asparagus..... bundle	0	0 0 0	Lettuce..... per score	0	9 1 6
Beans Broad..... bushel	0	0 0 0	Mushrooms..... pottle	1	6 2 6
Kidney..... do	3	0 5 0	Mixed & Cress, punnet	0	2 0 0
Beet, Red..... doz.	2	0 3 0	Onions..... per bushel	3	0 5 0
Broccoli..... bundle	1	0 2 0	pickling..... quart	0	0 0 6
Brus, Sprouts..... $\frac{1}{2}$ sieve	0	0 0 0	Parsley..... $\frac{1}{2}$ sieve	1	0 1 0
Cabbage..... doz.	0	9 1 6	Parsnips..... doz.	1	0 2 0
Carrots..... 100	1	0 2 0	Peas..... quart	0	9 1 0
Capsicums..... bunch	0	4 0 8	Potatoes..... bushel	2	6 4 0
Canflower..... doz.	3	0 6 0	Kidney..... do.	3	0 4 0
Celery..... bundle	1	0 2 0	Radishes doz. bunches	0	6 1 0
Cucumbers..... each	4	0 8	Rhubarb..... bundle	0	0 0 0
Endive..... doz.	2	0 4 0	Savoy..... doz.	0	0 0 0
Endive..... score	2	0 5 0	Sea-kale..... basket	0	0 0 0
Fennel..... bunch	0	3 0 0	Spinach..... bushel	2	0 2 0
Garlic and Shallots, lb.	0	8 0 0	Tomatoes..... $\frac{1}{2}$ sieve	1	0 2 0
Herbs..... bunch	0	3 0 0	Turnips..... bunch	0	4 0 6
Horse-radish..... bundle	2	6 4 0	Vegetable Marrows dz.	1	0 2 0

#### TRADE CATALOGUES RECEIVED.

W. Hooper, St. John's Hill Nursery, Wandsworth.—*List of Hyacinths, Tulips, Crocuses, and other Flower Roots.*  
Ferdinand Gloede, aux Sablons, near Moiret-sur-Loing (Seine et Marne), France.—*List of New and Beautiful Strawberries.*

#### TO CORRESPONDENTS.

\*.\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

BOOKS (J. Kerr).—A new and much enlarged edition of Dr. Hogg's "Fruit Manual" is in the press, and will shortly be published.

CALIFORNIAN PUMP.—I have seen the above-named pump in full operation. It is a most ingenious and powerful machine, at a very small cost. It was shown at the Royal Agricultural Meeting at Newcastle last year, and I think the exhibitor has his place in Holborn. "West Croydon" will ascertain this by procuring from some of his former friends a Society's catalogue; any gentleman who visited that show will be sure to have kept his catalogue. I have a full description and drawing of it, which I cannot find at present or I should have forwarded it.—JACKSON GILLMAN.

FRUIT EATEN BY FLIES, WASPS, &c. (*James Pin*).—The only remedy that we know is to have Nottingham net stretched over the openings of the windows and ventilators, and putting the fruit on the walls into very loose bags of the same material.

SEEDLING GERANIUMS (*E. G., An Old Subscriber*).—The petals were all shed. The trusses are bold and abundant-flowered, but not novel in colour. You had better send some specimens to the Floral Committee of the Royal Horticultural Society.

VINES IN POTS IN GROUND VINERY (*W. S. W.*).—You will have no difficulty in doing as you wish, if you sink the pots in the earth, and raise the sides as you suggest. We have so grown Vines and ripened Black Hamburgh Grapes; but we trained the rods along wires, and did not grow the Vines as bushes, which you propose to do. We shall be obliged by the report you offer us.

PLANTING SHRUBS ON A LAWN (*J. H. H.*).—The soil in which all trees and shrubs are to be planted would be better trenched 2 feet deep. The holes in your case, and in all cases of tree planting when practicable, ought to be dug out to a depth of 2 feet, and so wide that no root of the trees or shrubs may be nearer the sides than 2 feet. With your 15 inches of good loam it would be well to take out the soil to that depth, place it on one side, and then dig out the clay, removing any that is very bad and replacing it with soil of a better quality. The soil at the bottom is to be stirred to a depth of 6 inches, and the hole to be three-parts filled with the soil from the bottom and the top, mixed together in the proportion of one-third of the latter to two of the former. This will leave a part of the top soil, which, being incorporated with some fresh compost, as decayed turf, will answer perfectly for planting the shrubs. Plant them so as to be slightly elevated above the surrounding ground level to allow of the soil settling, for if planted on a level with the surrounding soil the trees will, from the subsidence of the soil, appear in a year or two as if in a hole. All the Fir and Pine tribe do much better planted on elevated mounds. Holes 6 feet in diameter will be sufficiently wide for ordinary-sized trees.

POTTING ACCUBAS (*Idem*).—The top spit of a pasture chopped with a spade could not be improved upon for potting these shrubs. If the soil is free from stones larger than a walnut sifting it would be more injurious than beneficial. A little rotten dung would be good if the soil is poor, one-fourth well incorporated. Sand, on the other hand, would be desirable if the soil is heavy.

WINTERING DIANTHUS HEDDEWIGH (*E. A. P.*).—Young plants will do admirably pricked out in rows 6 inches apart and 3 inches in the rows, in a sunny sheltered situation, and in a light dry soil. On a wet soil they sometimes suffer from frost and wet, and we have been obliged to winter them in a cool greenhouse. On a dry gravelly soil we have them now as hardy as Sweet Williams; nevertheless we have a few plants in pots, and keep them in a cool greenhouse, where they are found useful for their bloom in autumn, winter, and spring, in fact they bloom successively almost throughout the year.

REMOVING LEAVES FROM VINES (*Idem*).—The leaves should not be removed from the Vines at any stage of their growth, for what is required for the formation and growth of the fruit is also necessary for its perfection, and the perfection of those shoots producing the fruit in a future season. The fruit will not swell, nor will it ripen perfectly if the leaves above and around it are removed.

WINTERING GERANIUMS AND CALCEOLARIAS (*Bart*).—Your pit will answer perfectly for the wintering of Calceolarias, if protected from severe frost by a thick covering of mats or straw, and the sides banked up with litter to prevent frost entering. The pit should not be opened whilst frost continues, but be kept closely covered even if the frost lasts for weeks. In your brick pit you will have room for a thousand Calceolaria cuttings, which you may put in any time after September, before the plants are frosted, placing 3 inches of river sand on the soil wherein the Cucumbers were grown, dibbling them in about 1½ inch apart, and giving a good watering to settle the sand about them. They cannot have too much air, nor too little heat, all they want being air and protection from frost. Towards the end of March they may be transplanted into trenches prepared as for Celery, kept well watered, and protected by mats from frost until finally planted out. The Geraniums would do best in the spare room, kept without water, or no more given than a little to prevent their drying up. They must be removed to a place secure from frost during its continuance, but so long as there is no frost in the room it will answer very well for the Geraniums. The pit will be too moist for them to be wintered in it safely.

CUCUMBERS FAILING (*F. A. Hill*).—We have not experienced any disease in our Cucumbers this season, except with the ridge ones, which have been for the most part a failure, and then, as in your case, they collapsed all at once without apparent cause. We think your soil was much too rich in the first instance, loam from rotted turves being of itself sufficiently rich without further admixture of manure. One-half of this is alone sufficient to induce disease. As for the bog soil we do not see its utility. There is no better soil for Cucumbers than the topsoil of a good pasture laid up in alternate layers with fresh dung for twelve months, and turned over once in summer, and twice in winter during dry frosty weather, adding a bushel of soot to every cartload at the first turning. The best preventive of the disease we have found to be fresh and well-aired soil. The syringing with Gishurst would be sufficient to cause the destruction of the leaves, and fire heat by night, instead of mitigating the evil, would only hasten the death of the plants. The only effectual remedy that we have found available is to use only moderately rich, fresh, sweet, well-aired soil, and to keep the plants frequently changed, instead of depending on one set of plants—that is, to keep on raising plants, sowing every six weeks or so in order to have plants ready to take the place of the diseased, after removing every particle of the old soil. It is an easy matter to throw the plants away should they remain healthy and fruitful throughout the season.



**WATERING VARIEGATED GERANIUM CUTTINGS** (*A Lady Gardener*).—So long as the soil remains moist it is not necessary to water the cuttings inserted in the open ground, but during very dry weather they may be watered so as to keep the soil moist, but by no means wet. Those in pots should be watered as often as necessary to keep the soil moist.

**RAISING DACTYLIS GLOMERATA ELEGANTISSIMA—WINTERING IRESINE HERBSTII** (*Sunset*).—A stock of this very elegant and whitest of dwarf variegated Grasses, is readily obtained by dividing the roots in spring. Last year we had only six plants, and they were divided into 250 plants in March, every stem being slipped off with a little root. They were then pricked off 3 inches apart every way in good loam, with a little leaf mould added and worked in, covered with a frame, and kept moist and shaded for a few days. They were then freely exposed to air and duly supplied with water. They make nice plants by May, when they are planted out with the other bedding plants. With us on dry gravelly soil this *Dactylis* is hardy, but in wet heavy soil it is liable to suffer in winter quite as much from the wet as from the frost. In such soils it is best to take up the plants in autumn, and winter them in a frame or cool greenhouse, dividing the roots in March, potting, and growing on in a frame. We have now tried it two summers, and find it makes an edging-line, or band early, and keeps good until late, alike elegant and graceful, dwarf and dense, and of easy culture. *Iresine Herbstii* is easily kept over the winter in a dry airy part of the greenhouse with sufficient water to keep the soil just moist. Plants struck in summer and potted off so as to become established before winter are the best, and give a number of cuttings in spring. It requires free drainage and a compost of two-thirds loam and one of leaf mould well reduced, and then it grows as freely as *Verbenas*, and is as easily kept over the winter.

**DRYING AND PREPARING BRITISH-GROWN TOBACCO FOR FUMIGATION** (*Live and Learn*).—When the leaves have attained their full size and become of a yellow hue they are taken from the stalk, tied together in small bunches by the footstalks, hung in a dry airy room to dry, and left there until dry and crisp. The first damp weather after this the leaves will become soft, and they should be watched to ascertain when this occurs; then pack them in a box evenly with the butts or stalk-ends of the leaves all one way. They are then to be pressed moderately, and in a few days a slight fermentation will take place, when the bunches should be taken out and shaken to let the heat escape. When this has been done repack tightly. The leaves will not reheat, but it is best to let them remain for a few days laid lightly in the box; and when all fermentation is over, pack tightly in a barrel, and keep in a dry place ready for use. As the leaves of British-grown Tobacco are not all mature at one time, they must be successively gathered as they ripen. The circumstance of the leaves not being all mature at one time, has led to the adoption of another mode—viz., when the leaves have attained their full size pull the plants up, tie them two or three together, and hang them, root upwards, in a dry warm room, if with a temperature of 90° all the better. When dry sprinkle them with water, and then hang up again to dry. Allow them to become dry again, and then wet them again; dry afterwards, and let this wetting and drying be done thrice. When the leaves become dry, but not so as to break, strip them from the stalks and lay them in boxes evenly, and quite close and tight, pressing for that purpose; then keep in a dry room. This latter process gives the leaves a colour which they will not possess if treated according to the first plan. Leaves prepared in this way will be green, while those treated according to the first mode will be of a pale brown and be fit for smoking. Leaves prepared in both ways are alike useful for fumigating for green fly, thrips, &c., and equally as effective as foreign Tobacco. Previous to use, the Tobacco should be chopped like hay and straw, or made into rough shag.

**ORCHARD-HOUSE APRICOTS AND PLUMS CRACKING** (*Nil Desperandum*).—The cracking most likely is owing to the plants having been rather dry, and then being freely watered; and the hot sun at the time, followed by dull weather, and then bright sun again, encouraging the skins of the fruit to swell faster than the energies of the root could supply them with swelling material. In such sudden changes a little shading in the first bright days would have averted the cracking. So our experience would say. But then we do not know what to make of Peaches and Nectarines in the same house swelling perfectly without cracking, unless they were better established in the pots. For ourselves, we noticed some three or four Peaches thus cracked, but no Plums. What say other growers as to the cause?

**WILLOW NEAR A POND** (*H. W.*).—We should say that the Weeping Willow will not be injured by your doing so unless the roots are largely fed by the pond. If many roots are matted round and beneath the pond, it might be advisable to place two or three loads of rotten dung over the bottom of the pond before placing the soil in: that would prevent all injury.

**VINE BORDER** (*E. S.*).—We see no objection to your manuring the border as proposed, provided you do not make the soil too rich. Earth is one of the best deodorisers, therefore unless there be a great excess of manural matter, we do not apprehend any bad smell.

**TRANSPLANTING EVERGREENS** (*Inquirer*).—No such manual has been, nor is likely to be, published. You cannot do better than refer to the instructions from time to time given in these pages.

**INSECTS ON PEAR LEAVES** (*J. M.*).—The insect is the Slimy Grub, the larva of *Scandria Ethiops* of Fabricius, the eggs of which are deposited in June and July. The insect is of frequent occurrence from July to September, and the remedy which you adopted—namely, dusting with lime, the only effectual one.

**GROWING GRAPES IN AN ORCHARD-HOUSE** (*A. Q.*).—There will be no difficulty in the matter, provided the trees you have in fruit are so low as not to shade the back wall, against which you propose having your Grapes. We would also advise your having the Vines together, but the house would look better if you planted them separately, took them up the back wall, and then brought them over an arch down the roof. The Grapes hanging from the arch would have a fine effect. The only drawback to the Grapes would be the extra air when the Peaches were ripening. When the Peaches were gathered you could give less air, which would ripen the Grapes and harden the wood of the Peaches, &c. For such a cool-house nothing will answer better than the Black Hamburg and the Royal Muscadine (white). We could give you a list of others, as *Esperione* and *Buckland Sweetwater*, but, on the whole, we think the above would be the best.

**VARIOUS** (*Mina*).—Your seedling Pansies will probably bloom early in summer if all go well. If an admirer of *Fuchsias* with golden-blotched leaves, you may add *Aucubafolia* and *Cloth of Gold*, to those which you already possess. Seedling Carnations if not double will not become so. (*Stattie*).—We do not know what is meant by "cardinalis." Removing the seedling Peach tree, if done so as not to injure roots much, will tend to hasten rather than retard fruiting. (*E. M.*).—As the object with seedling *Pelargoniums* is to flower them quickly, instead of growing fine specimens, it is unnecessary to top them. After flowering give the same treatment as to plants from cuttings. *Maréchal Niel Rose* is not likely to be cheap this season, as the demand for it will be great. *Auriculas* cannot be propagated so rapidly as other plants, hence cannot be sold so cheaply.

**PLANTING VINES IN A SHADED GREENHOUSE** (*A Young Beginner*).—The shady position of your house is a very bad one for Vines. They require all the sunlight possible. Besides the Black Hamburg, the best Grapes for such a house would be the *Esperione* (black), and for whites, *Royal Muscadine* and *Buckland Sweetwater*. From 2 to 2½ feet will be deep enough for your border. We would take no more soil away than would give room for your rubble, concrete, &c., and the proper depth above. Slates will be an improvement above the open rubble and the sods. Your soil will be all the better if taken only 2 to 3 inches in depth. We would use only a very little rotten manure, chiefly where you plant the Vines, or leaf mould, but in such a border you may mix a quarter of a ton of boiled broken bones, a few bushels of charcoal, and a load or two of lime rubbish, the light character of the soil renders less of that necessary. With all your other proposed modes of action we agree. The border if 2 feet above the general level at back, may slope down to 6 or 9 inches above the general level in front. The only thing we are sorry for is, that you should go to all this trouble for a house that receives no direct sun, except for a short time at midday. We lately saw a large viney hemmed in with trees on all sides, except a little bit in front, and even that was greatly shut out by a Weeping Willow on the lawn. Things were so unsatisfactory that we advised the house being turned into a fernery and Moss-house, and a new viney to be built where sun could reach the Vines.

**GRAFTING PEARS ON THE QUINCE STOCK** (*W. H. S.*).—It is not necessary to cover the part worked with soil. We have tried them both ways, and prefer those with the union of stock and scion a few inches above the ground level. Our reporter did not recognise it, and we have not seen the specimen.

**STRIKING GOLDEN CHAIN GERANIUM** (*Idem*).—After several years' experience we have given up the propagation of this useful kind in autumn, from our finding that the cuttings strike in half the time, and without failure, in spring. We take up the old plants early in October, and pot them without any reduction of the head or shortening of the shoots, and keep them in a light airy situation, dry at the root, yet moist enough to keep the leaves fresh, and in a temperature from fire heat of 40° or 45°. About the middle of February they are placed in a viney with a temperature of from 50° to 55° by night, and by the middle of March each plant furnishes us with from six to twelve cuttings according to their size. We then fill a sufficient number of three-inch pots with turfy light loam two-thirds, and one-third leaf mould well incorporated, first placing a crock over the hole in the pot, and then half an inch of the rougher parts of the compost. In the centre of each pot we make a hole double the diameter of the cutting, and of a depth corresponding to the length of the cutting, drop a little silver sand into the hole, place the cutting with its base thereon, and fill in round the cutting with silver sand. A gentle watering is then given, and the pots are placed in a frame with a bottom heat of from 75° to 80°, and a top heat of from 65° to 75°. In three weeks we have well-rooted plants, by which time the old plants will have pushed afresh, both they and the cuttings being placed in a cool-house and gradually hardened-off by May. In this we have them equally strong with those struck in August, without the trouble and room lost consequent on wintering them, and they grow as freely, and so do all the variegated class. If our stock were limited and we desired to largely increase it, we would take cuttings in August, and these would afford cuttings in spring, otherwise we would not care about striking any variegated Geraniums in autumn, as the younger the plant the more freely it grows.

**COMPOST FOR PRIMULAS, CINERARIAS, AND CALCEOLARIAS** (*Lex*).—Loam from rotted turves a year old two-thirds, leaf mould three parts reduced one-third, with one-sixth of silver sand added for the first, and the same quantity of that or river sand for the last two. Sandy turfy peat is to be preferred to the leaf mould for Primulas.

**PLANTING HYACINTHS** (*Idem*).—The best time to plant Hyacinths in the open ground is in October and early in November. Plant in pots from this time to November, but the earlier the better, and October is the best time to place bulbs in water. All Hyacinths are of the most easy culture, and though we add the names of some really good flowers, to be had at moderate prices, we cannot say that they are more easily cultivated than those at a higher price. Single White: Grand Vainqueur, Elfrida, and Rousseau. Single Red: Diebitz Sabalkansky, Madame Hodgson, Norma, and Amy. Single Blue: Charles Dickens, Grand Lilas, Nimrod, and Prince Albert. Double White, Blush, or Cream: Prince of Waterloo, La Tour d'Auvergne, Anna Maria, and La Deesse. Double Red: Czar Nicholas, Waterloo, Princess Royal, and Grootvoort. Double Blue: Lord Wellington, Comte de St. Priest, A-la-mode, and Blocksberg.

**FORCING KIDNEY BEANS** (*A. R.*).—We use 11-inch pots, and grow nine Beans in a pot, but sometimes also nine-inch pots, and six Beans in each. Of kinds, after trying all we could procure, Canterbury, Sion House, and Fulmer's Early are the best three, and Newington Wonder for using with the pods whole or cut. A compost of light turfy loam suits them well, that from turves a year old is the best, half filling the pots, and then earthing-up when they are sufficiently grown, which is when they show the second leaves or when the first are level with the rim of the pots. We know of no work devoted to forcing, but you will find much on the subject in our pages of the past, and all that is needful is treated of in "Thompson's Gardener's Assistant." As to meet special cases is in part the object of our labour, we shall be glad to assist you. Strawberries will do fairly in the same house with an airy and light situation near the glass, but better in a house with a lower temperature, at least until the fruit has set and begins to swell. Kidney Beans should not have a less temperature than from 55° to 60° at night, 50° is enough for Strawberries until the fruit is set.

**LILIUMS DONE BLOOMING** (*A Constant Reader*).—The best time to pot Liliams is immediately after the flowerstalks become yellow, and instead of taking the bulbs entirely out of the soil turn the plants out with the ball entire. Remove the surface soil down to the crown of the roots, and cut the stalk or stems off at that point. Next remove the drainage, and put soil that comes away easily. Clean the pot inside, and replace the drainage with an inch of the rougher parts of the compost over it, then a little compost, then the roots, working the soil carefully around them, and cover the crowns about an inch deep. If the work be done well the pot will be about three-parts full; the remaining space should be filled with compost when the shoots are sufficiently high for the purpose. Give a gentle watering after potting. We use a compost of two-thirds turfy loam, a year old, from rotted turves cut 3 inches thick, and one-third leaf-mould or turfy sandy peat, with a free admixture of sand.

**NAMES OF FRUIT** (*G. K., Serenoaks*).—Your Apple is not Golden Pippin but Yellow Ingestrie. The cooking Apple is Springrove Codlin. The Plum is Danmore. (*H. H.*).—2, Blenheim Pippin; 3, Borovitski; 5, Carlisle Codlin; 6, Kerry Pippin. (*Abandon*).—The Peach is Barrington.

(*C. R.*).—Apple, King of the Pippins; Pear, Doyenné du Comice; Nectarine, Elnage; Plums quite decayed. (*T. Bayard & Son*).—1, Bergamotte Espere; 4, Baronne de Mello. The rest are not yet ripe enough. (*G. H.*).—1, Marie Louise; 2, Vicar of Winkfield; 3, Aromatic Russet; 5, a Siberian Crab; 6, Boston Russet; 8, Glou Moreau; 9, Golden Noble; 10, Golden Russet. (*T. C.*).—Marie Louise Pear.

**NAME OF FUNGUS** (*P. S.*).—*Phallus impudicus*, commonly called the Stinkhorn or Stinking Mord. It is not uncommon.

**NAMES OF PLANTS** (*J. L.*).—We cannot tell the name from your description. Send the bloom. (*D. H.*).—We are not surprised at your want of confidence in our determination that your plant is a Violet, as you evidently are unaware that the flowers in most of our Violets are dimorphic—that is, assume different forms or characters. The ordinary Violet flowers with large coloured petals appear in the spring, and later in the season yields smaller flowers destitute of petals, and these produce the finest and plumpest seed-vessels. We can assure you that your plant is no other than *Viola canina*, the stems of which always lengthen out and bear small petalless-flowers late in the summer.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 16th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . 10	30.165	30.078	78	60	65.4	64	W.	.00	Overcast; very fine; cloudy and fine at night.
Mon... 11	30.278	30.063	78	51	65	63.4	W.	.00	Overcast; close and warm; very fine; overcast.
Tues. . 12	30.332	30.335	85	50	65	64	S.W.	.00	Slight fog; very fine; hot; very fine at night.
Wed. . 13	30.307	30.234	88	45	65	64	S.	.00	Slight fog with heavy dew; excessively hot; very fine.
Thurs. 11	30.242	30.170	82	45	65	63.4	E.	.00	Slight fog, and heavy dew; slight haze; hot and dry; very fine.
Fri. . 15	30.160	30.127	87	45	65	63	S.E.	.00	Very heavy dew; very hot; clear, bright blue, quite cloudless sky;
Sat. . 16	30.108	30.102	82	46	64	63	S.W.	.00	Hot and very fine throughout. [exceedingly fine.
Mean..	30.236	30.158	82.85	48.85	64.93	63.57	....	0.00	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### THE POULTRY CLUB and THE STANDARD OF EXCELLENCE.

THE Poultry Club is at last a fact accomplished. It has now *bona fide* members, officers, rules, and a standard of excellence. Phoenix-like, it sprang from the ashes of its predecessor. The old Club was a combination of men whose sole object, declared, was the exclusion of dealers from judging, whilst they themselves dealt and judged. The impression abroad was that the desire of the Club was to "crush Bailey of Mount Street," which, if true of him or of any other dealer, would have prevented all good men from joining in the membership. Want of courtesy marked almost all the answers to applications from strangers for information, rules were written about and talked about, which were always nearly ready if they had really any existence, and a standard of excellence was to be had upon application, which no one was fortunate enough to obtain. An angry correspondence in print took place, which ended in consigning the Club to the disgust of the public, and in marking some of the correspondents as wanting proficiency in composition and in courtesy. Finally, at the last Birmingham Show, the Club passed a harmless vote of censure on the Judges, and reached the climax of absurdity.

When things are at the worst they must end or mend. The Poultry Club did not end. We have now before us a printed goodly list of members containing some of the most noted amateurs and dealers in England. We have also a code of clear and intelligible rules. The promised "standard of excellence" has appeared, circulated gratuitously to members of the Club, and at the price of 5s. to non-members. Compiled by the practical ability of Messrs. Teebay, Dixon, and Tegetmeier, it has a guarantee for correctness; yet, as there ever will be divided opinions, I would invite discussion on its merits. There are plenty of your readers quite capable of doing this in the classes which have occupied their attention. I will confine myself to an extract which will give an idea of the simplicity and conciseness of arrangement of a book which should be in the hands of every one who wishes not only to exhibit but to keep perfect specimens of poultry:—

#### "BIRCHIN YELLOW GAME.

##### "COLOUR OF COCK.

"Head.—Dark straw colour.  
 "Face and Wattles.—Either red or purple.  
 "Neck.—Hackle, deep straw colour, striped with reddish brown.  
 "Back.—Reddish brown; shaft and narrow margin of the feathers cream colour.  
 "Back and Shoulder-coverts.—Rich coppery-straw, marked with reddish brown.

"Saddle.—Deep straw, striped with reddish brown.

"Wing-butts.—Dull black.

"Wing-bow.—Rich, dark, coppery straw, slightly marked with reddish brown.

"Wing-coverts.—Cream colour, mottled with reddish brown, and tipped with chocolate.

"Wing-flight.—Reddish brown.

"Tail.—Black.

"Sickles.—Bronzy black.

"Tail-coverts.—Bronzy black, the lesser with a narrow margin of cream colour.

"Legs.—Bronzy black, olive, willow, or yellow."

And so on with the colour of the hen.

#### "POINTS IN GAME.

Shape of head and neck .....	2
Body and wings .....	2
Tail .....	2
Thighs, legs, and toes .....	2
Colour of plumage .....	3
Symmetry, handling .....	2
Condition and hardness of plumage .....	2
	15

#### "DISQUALIFICATIONS.

"Colour of legs or plumage in the pen; crooked backs or breasts; adult cocks not dubbed."

The want of some such knowledge as this amongst exhibitors and judges, amongst purchasers and dealers, must cause dissatisfaction and distrust. The spread of such knowledge will do away with that carelessness in judging and in exhibiting complained of recently in your Journal, where prizes are plentiful to encourage exhibitors rather than to mark the merit of their birds.

In racing there is the Jockey Club; in cricket, the Marylebone; in all things some combination and association to promote union and to frame laws. So with the Poultry Club, long may it flourish with such motives and such management as it has recently shown, and speedily be its downfall when it shall become a clique combining against one or against any set of men for its own purposes, or for any purpose save the promotion of honesty and the protection of the public. The public have the matter in their own hands. The larger the number of members the less likelihood of intrigue. The more its doings are made known the more they are likely to be in that spirit of fairness which can only be obtained by general combination and inquiry.—GEORGE MANNING, *Member of the Poultry Club.*

## LEIGH (LANCASHIRE) POULTRY EXHIBITION.

It gives us great pleasure to record the entire success of the Poultry Show held this year at Leigh, as on the last two annual occasions, the meetings held under the guidance of this Committee were accompanied by weather so wet and unpropitious, that such repeated dis-



comfitures would have entirely damped the ardour of most societies of a like nature; not so, however, at Leigh, bad weather seemed only to redouble the efforts of the managers to secure success, and we rejoice to state that the meeting of last week has fully gratified the most ardent well-wisher among them. Former meetings have been held under a tent, provided expressly for the accommodation of both visitors and poultry, and of course resulted in thronging, more or less severe; but on the present occasion the tent was altogether dispensed with, and an awning of woodwork was thrown over both the public and poultry, giving perfect security from wet. The pens too were spacious and convenient, and the poultry as assiduously attended to as the most anxious owner could desire. The change of ground also now made for holding this Show is obviously a step in the right direction, showing a vast improvement, which will be continued at the future meetings of this Society. Everything augurs well for coming shows, and doubtless the Leigh Poultry Exhibitions will rank highly among those of coming years in Lancashire. In short, the Committee have proved themselves well worthy of public support, and we are glad they have so well succeeded. The Show was open to all England, the competition, however, except in two or three instances, being restricted to birds of the present year.

The classes of young *Game* fowls were really good, and the competition exceeded expectation; still Mr. John Hallsall, of Ince, near Wigan, managed to monopolise quite a heavy sweep of premiums. This gentleman's birds were shown in perfect condition, and of hatches so early as to ensure success among specimens so much younger. The show of *Spanish* fowls was excellent, and Mr. Cook, of Chowbent, exhibited birds very hard to beat at any meeting. With the exception of the prize birds, the *Cochins* were not praiseworthy, though *Brahmas* were both numerous and excellent. We cannot speak so highly of the *Dorking* classes as we anticipated, but as the specimens exhibited were very young no doubt they will yet improve considerably. In *Hamburghs* the Leigh Show was particularly good, and the *Poland* class was equal to any seen for years past. The *Single Game* cocks, the cockerels, and again, the *Single Game* pullet classes were not so fine a feature of the Exhibition as they would have been a month hence, after the birds had done moulting, still some very excellent specimens were shown. The *Ducks*, *Geese*, and *Turkeys* were exceedingly good and well shown, nor were these really useful varieties crushed into a corner, as is too frequently the case, as though worthless, but enjoyed the same advantages as every other variety of poultry shown.

The weather being brilliant and settled, the Show was thronged with visitors from 10 A.M. until nightfall, and consequently proved a decided success.

**GAME CHICKENS (Black-breasted Red).**—First, and Second, J. Hallsall, Ince, near Wigan. Highly Commended, W. Gillibrand, Mill Erow, Boothstown, near Manchester.

**GAME CHICKENS (Brown Red).**—First, R. Cuerden, Stonecough, near Manchester. Second, J. Wood, Moat House, Haigh. Highly Commended, P. West, Abram, near Wigan.

**DUCKING (Game).**—First and Second, J. Hallsall, Ince, near Wigan. Highly Commended, J. Eaves, Knowsley, Lancashire; R. Cuerden, Stonecough.

**SPANISH CHICKENS (White-faced).**—First and Second, N. Cooke, Rose Hill, Chowbent.

**COCHIN CHICKENS (Buff).**—First, C. Sedgwick, Riddlesden Hall, Keighley. Second, A. Bamford, Tonge Lane, near Middleton.

**COCHIN CHICKENS (Any other colour).**—First, R. Wood, Brinsall Hall, Chorley. Second, Withheld.

**BRAHMA POOTRA CHICKENS.**—First, H. Lacey, Lacey House, near Hebden Bridge. Second, E. Leech, Greave House, Rochdale.

**DORKING CHICKENS.**—First, E. Shaw, Plas Wilnot, Oswestry. Second, S. Farrington, Chatmoss, Astley.

**HAMBURGH CHICKENS (Golden-pencilled).**—First and Second, T. Rigley, jun., Tonge, Middleton, near Manchester. Highly Commended, J. Morris, Boat Yard, Dick Mather's Bridge, Leigh.

**HAMBURGH CHICKENS (Silver-pencilled).**—First, J. Platt, Dean, near Bolton. Second, A. Nuttall, Mill End, Newchurch, near Manchester.

**HAMBURGH CHICKENS (Golden-spangled).**—Prize, — Parr, Patricroft.

**HAMBURGH CHICKENS (Silver-spangled).**—First, J. Fielding, Newchurch, near Manchester. Second, E. Collings, Middleton. Highly Commended, J. Turner, Astley near Manchester.

**POLAND CHICKENS (Any variety).**—First, S. Farrington, Chatmoss, Astley. Second, P. Unsworth, Loxton, near Warrington. Highly Commended, S. Farrington; T. Woodward, Leigh. Commended, P. Unsworth.

**BANTAM CHICKENS (Game).**—First, R. Tate, Leeds. Second, C. W. Brierley, Middleton. Highly Commended, P. Smith, Westleigh. Commended, R. Cuerden, Stonecough, near Manchester.

**BANTAM CHICKENS (Any other variety).**—First, Messrs. S. & R. Ashton, Mottram, Cheshire. Second, Withheld.

**ANY OTHER DISTINCT BREED.**—First, C. Sedgwick, Riddlesden, Keighley. Second, H. Ormerod, Bridge foot, Chowbent.

**GAME COCK (Any variety).**—First, J. Wood, Moat House, Haigh. Second, W. Painter, Abram, near Wigan.

**GAME COCKEREL.**—First, J. Eaves, Knowsley, Lancashire. Second, P. West, Abram, near Wigan.

**GAME BANTAM COCK (Any variety).**—First, R. Charlesworth, Brook Bar, Manchester. Second, R. Cuerden.

**GAME PULLET (Any variety).**—First, A. Nuttall, Mill End, Newchurch, near Manchester. Second, J. Wood, Haigh. Highly Commended, J. Eaves, Knowsley, Lancashire; W. Painter, Abram, near Wigan; H. Coupe, Hares and Hounds, Pendleton. Commended, E. Shaw, Plas Wilnot, Oswestry.

**SELLING CLASS.**—First, N. Cooke, Rose Hill, Chowbent (Black Spanish). Second, P. Unsworth, Loxton, near Warrington (Polands). Highly Commended, R. Tate; S. Farrington; T. Rigley, jun.

**DUCKLINGS (Aylesbury).**—First, E. Leech. Second, E. Shaw. Commended, — Parr, Patricroft.

**DUCKLINGS (Rouen).**—First, P. Dickinson, Hindley. Second, T. Wakefield, Golborne, near Warrington. Highly Commended, J. Wood, Haigh; C. P. Ackers, Bickershaw, near Wigan; E. Leech.

**ANY OTHER VARIETY.**—First, T. Burns, Abram, near Wigan. Second, R. Tate. Commended, J. R. Jessop.

**GOSLINGS.**—First, J. Southern, Calcheth, near Warrington. Second, R. Tate, Leeds.

**TURKEYS.**—First, Messrs. R. & W. Barton, Westleigh. Second, P. Cleworth, Leigh.

The Judge was Edward Hewett, Esq., of Eden Cottage, Sparkbrook, near Birmingham.

## WAKEFIELD POULTRY SHOW.

SEPTEMBER 9TH.

THE annual Show of poultry of the West Riding Horticultural and Agricultural Society was held at Wakefield on Saturday the 9th inst. The entries were not large, the prizes being insufficient to tempt exhibitors at a distance; but as the Show proved successful we understand that it is intended to increase the amount offered for competition next year.

The classes were entirely for chickens. *Game* were divided into four lots, but did not embrace anything requiring particular notice. The prize Buff *Cochins* were good, and some fine *Brahmas* competed in the class allotted to them; but *Dorkings* were much the best collection. Mr. S. Pickard taking both prizes with particularly good pens. *Hamburghs*, with the exception of the first-prize Golden-pencilled, were a wretched lot. In *Game Bantams* good Black Reds won; and in *Bantams*, any other variety, capital Blacks took both prizes.

**GAME (Black-breasted Red).**—First, T. Vickerman, Chickenley, Dewsbury. Second, R. Tate, Leeds. Highly Commended, J. Hodgson, Bowling Old Lane, Bradford; A. Hodgson, Ilkworth, near Halifax.

**GAME (Brown-breasted Red).**—First, J. Hodgson. Second, Messrs. Beauland & Suddick, Bradford. Highly Commended, H. C. Mason, Drighlington, Leeds.

**GAME (Duckwing).**—First, R. Tate. Second, G. Hartley, Gamersal, Leeds. Commended, J. Firth, Halifax; J. Fell, Adwalton, Leeds.

**GAME (Any other variety).**—First, G. Hartley. Second, W. Charter, Driffield. Highly Commended, J. D. Newsome, Batley, Leeds; J. Vickerman.

**SPANISH.**—First and Second, T. Greenwood, Dewsbury.

**COCHIN-CHINA (Cinnamon or Buff).**—First, C. Sidgwick, Riddlesden, Keighley. Second, C. B. Margatroyd, Rawden, Leeds.

**COCHIN-CHINA (Any other variety).**—First, R. J. Wood, Brinsall Hall, Chorley. Second, W. Dawson, Hopton, Mirfield. Commended, J. Harrison, Dale House, Wakefield.

**BRAHMA POOTRA.**—First and Second, H. Lacey, Lacey House, Hebden Bridge. Commended, F. Powell, Knaresborough.

**DORKING.**—First and Second, S. Pickard, Wakefield. Highly Commended, Hon. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. Commended, J. Hirst, Boyne Hill, Wakefield; H. Hemsworth, Lupset Hall, Wakefield; F. Lees, Gaisley, Leeds.

**HAMBURGH (Golden-spangled).**—First, E. Hutton, Pudsey, Leeds. Second, H. Hemsworth.

**HAMBURGH (Silver-spangled).**—First, C. Cowburn, Calls, Leeds. Second, E. Hutton.

**HAMBURGH (Golden-pencilled).**—First, S. Smith, Northwram, Halifax. Second, H. Crossley, Bloomfield, Halifax. Highly Commended, E. Hutton; S. Smith.

**HAMBURGH (Silver-pencilled).**—First, D. Illingworth, Burley, Otley. Second, E. Hutton.

**BANTAMS (Game).**—First, J. D. Newsome, Batley, Leeds. Second, R. Tate. Highly Commended, Hon. T. Fitzwilliam, Wentworth Woodhouse, Rotherham; Hon. W. C. Fitzwilliam; J. Rhodes, Wakefield.

**BANTAMS (Any other variety).**—First and Second, Miss K. Charlton, Manningham, Bradford.

**DUCKS (Aylesbury).**—First, E. Leech, Greaves House, Rochdale. Second, Hon. H. W. Fitzwilliam, Rotherham.

**DUCKS (Rouen).**—First, E. Leech. Second, J. Hirst. Highly Commended, C. Sedgwick, Riddlesden Hall, Keighley. Commended, J. D. Newsome.

**GESE.**—Prize, O. A. Young, Driffield.

**TURKEYS.**—First, E. Leech. Second, C. Sedgwick.

**EXTRA STOCK.**—Highly Commended, H. Hemsworth (Dorking); F. Powell (Brahma Pootra); W. Shaw, George Hotel; W. Crossland, Thornes. Commended, W. Crossland.

The Judges were James Dixon, Esq., Bradford, and Wm. Smith, Esq., Halifax.

## THE MARKET DRAYTON AGRICULTURAL SOCIETY'S POULTRY SHOW.

(From a Correspondent.)

THE fifth annual show of the above Society was held at Market Drayton on the 14th instant, and proved a success. The poultry were exhibited in a large tent, on a piece of ground adjoining the Tower, and well fitted up with excellent pens from the Nantwich Poultry Pen Association.

The *Game* class would have done credit to any of the large poultry shows. The *Dorking chickens* were also very good, and a beautiful pen of Black Red *Game Bantams* were shown by Mr. Haslem. The *Ducks* were a good and extensive class. Mr. R. Corbett, of Adderley

Hall, exhibited two beautiful pens of *Turkeys*. The following are the awards:—

*GAME* (Single Cock).—First and Second, Mr. Burgess. *Game Cock and two Hens*.—First and Second, Mr. Burgess. *Dorking Cock and two Hens*.—First and Second, Mr. Burgess. *Any variety*.—First, Mr. Haslem (Bantam). Second, Mr. Kemp.

*DUCKS*.—First, Mr. Kemp. Second, Mr. Burgess. *Geese*.—First, Mr. Mats. Second, Mr. Burgess. *Turkeys*.—Mr. R. Corbett.

Mr. Heath, of Nantwich, was the Judge.

## CROOK AGRICULTURAL SOCIETY'S POULTRY SHOW.

(From a Correspondent.)

THE above-named Society held their third annual Exhibition on the 6th inst. The entries were not numerous, but this was owing to the Society not providing pens, which prevented many parties from entering that otherwise would have done so, and many who had entered failed to send their birds, no doubt for this very reason. It is to be hoped that the Committee will provide pens another year, for they were not blind to their mistake, and were willing to do anything in their power to oblige exhibitors. Mr. J. G. Crofton is also one of the most agreeable of Secretaries. The weather was everything that could be desired, consequently a numerous company from the surrounding neighbourhood visited the Show.

The various classes of poultry contained some very good pens of birds, particularly the *Dorkings* and *Hamburghs*; but the strongest class in the Show was the *Bantam* class (all the varieties of Bantams competing together), but Mr. W. Lawrenson surpassed all other competitors with a pen of Duckwing chickens. There was a good entry for both *Geese* and *Ducks*, but many of the latter had faulty bills. Some of the collections of *Pigeons* were very nice indeed. The following is a list of the awards:—

*GAME* (Black or Brown Red).—First, J. Sutton, Durham. Second, W. Lawrenson, Eaglescliffe.

*GAME* (Duckwing).—First, withheld. Second, J. Armary, Crook.

*GAME* (Any colour).—Prize, J. Armary, Crook.

*SPANISH*.—First, T. Craggs, Crook. Second, J. Fryer, Smelt House.

*DORKINGS*.—First, J. Bell, Thornton-le-Moors, Northallerton. Second, Mrs. Baxter, Brancepeth.

*COCHIN-CHINA*.—First, R. Thompson. Second, G. A. Proctor, Market Place, Durham.

*HAMBURGHS* (Golden-spangled).—First, T. Horn, Tow Law. Second, J. Potts, Sunniside.

*HAMBURGHS* (Golden-pencilled).—Prize, W. Lawrenson.

*HAMBURGHS* (Silver-pencilled).—First and Second, W. Lawrenson, Eaglescliffe.

*BANTAMS* (Any variety).—First, W. Lawrenson, Eaglescliffe, Yarm. Second, W. Robinson, Crook.

*TURKEYS*.—Prize, J. Fryer, Smelt House.

*GESE*.—First, T. Baxter, Brancepeth. Second, Mrs. Reid, Stanley.

*DUCKS* (Aylesbury).—First, J. Fryer, Smelt House. Second, H. Pickering, Tow Law.

*DUCKS* (Rouen).—First, Miss C. Crofton, Holywell, Durham. Second, Rev. M. H. Simpson, Tow Law.

*DUCKS* (Any other variety).—Prize, Miss C. Crofton.

*COLLECTION OF PIGEONS*.—First, J. Armary, Gibbet Hill. Second, G. H. Proctor, Jun., Market Place, Durham.

## RAILWAY DELAYS IN DELIVERING DEAD POULTRY.

WILL you inform me if a railway company is bound to deliver dead fowls at any particular time? I sent seventy-two last week, and they were not delivered in Leadenhall till after the market was over. The salesman said the loss was quite 3d. each. Can I make the company pay the loss?—A SUSSEX HIGGLER.

[If the delay in delivering a parcel is unreasonably long, the carrier is liable for any consequent loss. We have not sufficient particulars to give a more definite opinion. When perishable goods are sent, the railway company, or any other carrier, should be informed of the nature of the goods, and be requested to deliver the parcel immediately.—Eds.]

## NEW BOOK.

*Eggs and Poultry as a Source of Wealth.* London: W. OLIVER, 3, Amen Corner.

WE opened this book hoping to find it assisting in a movement which is most desirable—promoting the production of poultry and eggs—but the first paragraph we read was this:—

"To commence operations on a small scale, it will be sufficient to buy five hens, and make them set!! The fifteen or eighteen eggs that each hen may hatch will yield at least from ten to a dozen of chickens. At the end of a month the

chickens must be taken from the hen and placed separately in cages. In the course of three months each of these chickens, if properly fed, will have become a splendid poult, such as sells for at least 2s. 6d. to 3s. !!!"

Our readers will not require to be told that the whole of that statement betrays total ignorance of poultry-keeping. However, we read on, and the conclusion is that we warn our readers that it is one of the most worthless books with a misleading title that we ever had placed before us.

## TAN-HIVES—SUCCESSFUL DRIVING.

I AM now in a position to communicate the result of my experience, during the summer, of the new material for bee-hives—tan; and I am much pleased in being enabled to give a satisfactory report. The inquiry of your correspondent Mr. F. H. West, in a late Number of the Journal, as to whether the hives stand well, and also whether I still think favourably of the material of which they are constructed, induces me to communicate a few more details respecting them. I have now five of these tan hives, all in a prosperous condition; the bees numerous, the hives weighty as to contents, and the material free from the slightest deterioration. The bees appear to have enjoyed their cool summer quarters, there having been less oppression from heat and less clustering out than in any of my boxes or straw hives. For winter I feel assured that hives of this material will far exceed any others in dryness and uniformity of temperature. Of course, owing to their weight, they cannot readily be moved from place to place; this may be somewhat of a drawback, but they can, however, be worked with bars, and are also well adapted for supers. Three of these hives contain swarms of this summer: one, a natural swarm, the others artificial, each of these having worked a considerable quantity of comb and stored honey in supers. I very much doubt whether tan-hives will come into general use, even in the garden of the scientific apiarian, but as an experiment, and a home manufacture, their construction and subsequent management have afforded me much pleasure. I can obtain the material close at hand, and at a cheap rate. The drying of the hives is, however, tedious, requiring some weeks' exposure to the air to effect it perfectly.

My driving operations have been successful this autumn, not one out of the thirty-five hives upon which I have operated having proved a failure. From these "beat-out" bees I have established nine fine stocks, the empty comb and brood from the hives having materially assisted in building them up, and liberal feeding effecting the rest. Most of these stocks contain three united lots, the remainder I have joined to some of my hives, there having been no disagreement in any instance.

A description of my mode of procedure may, perhaps, be acceptable, as it varies in some of its details from that pursued by others, who, nevertheless, may be equally successful operators. It is quite immaterial what portion of the day you select for the manipulations; and I have found, in every instance, that the driven bees, with their queen intact, have settled quietly into their hive, ready for their removal in the early part of the evening.

Having cautioned inquisitive people to get out of my way, foreboding direful consequences should the irritated bees escape, I remove the hive to some little distance, placing another slate on the stand, upon which I spread the cloth in which the driven bees are finally secured, and upon this an empty hive with the straw cap loosely thrown over it. Then, returning to the hive to be operated upon, I arrange the cloth and string for wrapping round, and look out my three sharp metal skewers, with which I secure the hives together in the following manner:—Having inverted the hive, and placed my empty butt upon it, I take one end of the cloth and one skewer, run it through the edges of the hives and one end of the cloth, pass this round; take another skewer, and in the same manner secure the other end; take the string, slip a loop in the end over one skewer, pass it round, and, lastly, the third skewer through the loop in the other end of the string; this saves time and trouble in tying, and secures the hives, so that you might, perhaps, almost roll them about together without their separating. Rap for two or three minutes, then off with string and cloth, and sticking one skewer through the edges of the hives, so as to act as a hinge, raise the butt, and pass the other skewers through the edges one on each side, thus keeping it up at an angle, say of about 45°. Again rap, if needful, and you may watch the stampede; remove the bees to the stand

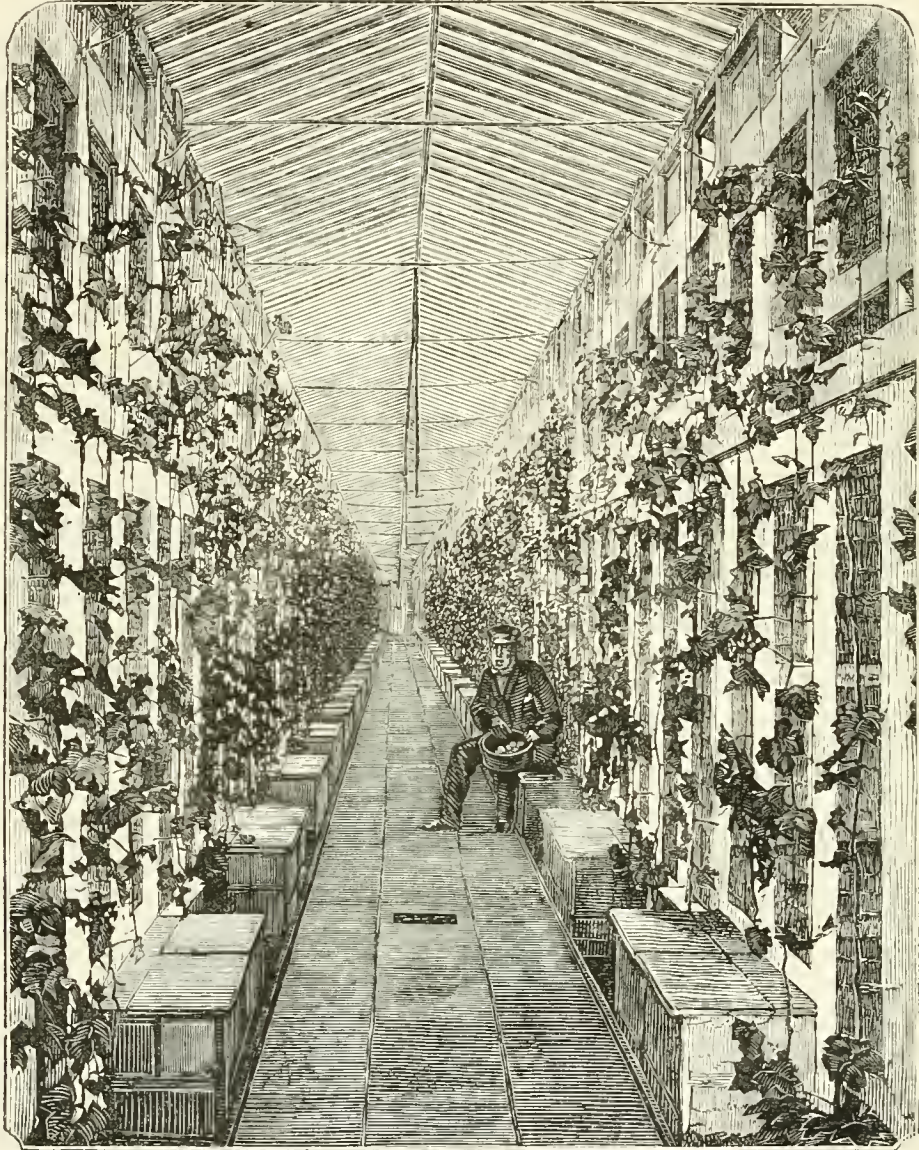


in place of the decoy-hive; when settled in, tie them up in a cloth, of course not a bee can remain on the stand.

Although in principle the above mode of procedure varies little from that of others, yet I find these little details, more particularly as to the skewers and looped cord, great assistants in effecting a rapid and successful result. The large addition of bees thus obtained and united to my hives may be considered unnecessary, as in almost every instance they were previously well tenanted; but when I find that so large a pro-

portion are, during the autumn, destroyed in our shops, I am exceedingly glad to make up by that means for their greatly diminished numbers; for I can assure your readers that this destruction is something fearful in our little town, and perhaps not to be seen to the same extent in any other. Bees are now, in our neighbourhood, living on the fruit, and conveying large quantities of saccharine matter to their hives, thus causing universal complaint; but not a single wasp have we seen.—  
GEORGE FOX, Kingsbridge, Devon.

#### THE NATIONAL POULTRY COMPANY.



INSTEAD of saying, as we did in our last, that the Company's establishment at Bromley is completed, we should have said that a sixth part is completed, for it is purposed to have five other buildings similar to that we described and portrayed last week. We then intimated our purpose of giving fuller details, and we now carry our purpose into effect.

The site has been well chosen, for the soil is very light, and the subsoil gravel. This is essential, not only for rearing early chickens, but for the health of adult fowls. It is more especially needful for carrying out the experiment now in course of trial by this Company—namely, to rear all kinds of domestic

fowls in pens, without any runs whatever, avoiding the usual consequent taint and disease-engendering by the deodorising and disinfecting power attributed to dry earth.

The floors of the hutches where rabbits are kept, and of the pens in which the fowls are confined, are covered about 3 inches deep with perfectly dry earth. This earth is turned over thoroughly twice a-week, and had been unchanged when we saw it for nearly a month, and we can testify that though there were about five hundred fowls in the building, and about a dozen rabbits, there was not the slightest offensive effluvia perceptible. The earth in the pens was perfectly dry, and, even



when applied close to the nose, inodorous. Whether after the lapse of three or more months, by which time it is hoped to be rendered a strong fertiliser, it will still be non-offensive, and whether the earth thus treated will be disinfecting as well as deodorising, remains to be proved.

When we visited the establishment the fowls had been little more than three weeks in their pens. They were then apparently in perfect health; but it remains to be proved whether this sanitary state can be preserved. We are inclined to fear that it cannot, and that it would have been a more salutary arrangement to have had grass runs, in which the birds for some hours daily might have had the advantages of free exercise, air, and sun-light.

Each pen is 12 feet long, 3 feet wide, and more than 7 feet high; behind it is another compartment of the same size, with the ground covered with short litter, wetted every day, in which the fowls, six hens and a cock, may scratch whenever so inclined. The dry earth in their front pen supplies them with the dust bath so needful for keeping them free from vermin. In front of each pen, as shown in our engraving, are two boxes, each box containing two circular earthenware nests with hay in them, such as is held by the man shown in the engraving. The yield of eggs, when we were there, was very small; but, then, the fowls were moulting. The feeding-troughs are outside, in front of the pens, which facilitates the supplying of food; but the water-fountains are inside.

Vines are trained in single rods against the woodwork on each side of the path—a vine between each two pens—but we fear, though the roof of the building is glazed, that there will not be sufficient light to enable the vines to be fruitful. They look well, and may promote healthfulness among the fowls by helping to purify the air; but ivy would do the same, would have cost less, and have had the advantage of being evergreen, and, consequently, ornamental and beneficial throughout the year.

The ventilation is particularly good, and the contrivance by which it is effected very simple. The ventilators are at the sides of the ridged-roof, as shown in our engraving last week. They close by their own gravity, aided by a quadrant lever; a rope attached to this lever, and pulled down, raises the ventilator, and another rope from the lever, but passed over a pulley and pulled down, closes the ventilator. It will be better understood, perhaps, from the accompanying drawing.

The food given to the fowls is chiefly ground corn made into a paste, with some offal meat as a compensation for the insects which they pick up when at liberty. For green food they are to have the refuse vegetables and weeds from the garden.

Tiers of fattening-coops are in course of erection in another building. There will be accommodation for about fifteen hundred fowls, six in each coop. The coops are barred in front, and the building is not to be dark.

An incubating-room, fitted up with hot-air flue and regulators, also with hot-water pipes, and gas-heating apparatus, is also in progress. About four thousand eggs can be hatching at the same time. It is proposed that any one may send eggs to have them incubated there. The eggs are to be laid on shelves covered with dry earth.

A house, fitted up with rabbit-hutches, pig-styes, and six tanks for Ducks, is now forming.

In the beds about the buildings are growing cabbages, broccolis, lettuces, and other garden produce, suitable for the London market. One serious drawback is the want of water, but an artesian well and a small steam-engine to raise the water are intended.

Our readers will perceive that the object the Company have in view is to utilise the manure and other refuse obtained from the poultry by applying it to the growth of vegetables and fruits. This can be done only by confining the poultry; whether they can do so and yet maintain the health of the fowls remains to be proved. One fact is established—namely, that the dry earth acts most effectually as a deodoriser.

Mr. Geyelin also told us, that of about 150 chickens just hatched, brought to the building August 21th, only two had died, and that from being crushed accidentally. We saw many of the chickens on the 11th of September, and they were then looking quite healthy, though they had no other nursing than that from artificial mothers of wool.

Mr. Geyelin seems to prefer the French breeds—the Hon-dan, La Flèche, and Crève Cœur, probably because he observed in France that they bear confinement well. Most of the fowls at the National Poultry Company's establishment are of those varieties, but there are also common Barn-door fowls, Brahma Postras, Cochin-Chinas, Derkings, and Spanish.

### ARE EARWIGS INJURIOUS TO BEES?

WILL you, or any of your experienced bee correspondents, inform me whether earwigs are injurious to bees? I have only just returned home after an absence of three months, and grieve to find that my bees, in the improved cottage hives, have not done at all well. The supers (6 lbs.), have only in two cases been filled, and that only once. As my garden is a large one, and I am surrounded with bean fields and clover, I expected to have found thriving colonies. I can only account for the failure thus: On removing the upper hive or cover, to examine the super, I found thousands of earwigs. The straw plaiting of the hives was full of them, and full, too, of a fine black and white dust, which is, I suppose, in some way connected with the presence of the earwigs. Is it likely that these creatures have got into the hives themselves, and either eaten the honey or injured the bees?

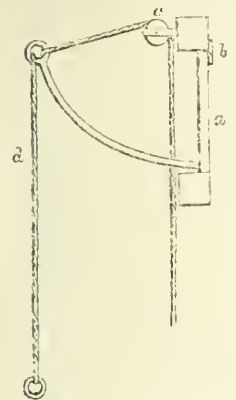
Can you suggest any plan for cleaning the straw of the hives and covers, and, in fact, extirpating the families of these pirates who seem to be breeding in the decay of the straw which they are causing? What is to be done at this time with the supers and adapting-boards? are they to be removed, and the hole in the hive stopped up for the winter, or are they to be left for bees to work up into next spring?—EDW. CADOGAN.

[The vast number of earwigs which have appeared this season in the midland counties were, doubtless, the cause of the injury to your bee-hives, as, for want of fruit or other vegetable matter, they would certainly feed on the bee-grubs. A similar instance of their feeding on wasp grubs was reported at the September Meeting of the Entomological Society. The hives should be carefully plastered round the junction with mortar.]

The supers and adapters should be removed, the crown-boards replaced, the orifices stopped up, and all made snug for the winter.]

### TRANSFERRING AND FORMING STOCKS FROM DRIVEN BEES.

THE result of my first experiment, as detailed in your Number of the 25th of July, notwithstanding the temporary loss, has been as favourable as could be. Twenty-one days after making the artificial swarm I inspected the parent hive, and found seven sealed royal cells. I did not interfere with them, as I had no hives to carry on with. My next experiment, the transferring of an old stock to a bar and frame hive, was performed on July 4th. I drove the bees (my first attempt) in about twenty minutes, and then cutting the old hive down the middle into halves I had easy access to the comb; six frames I filled fully, two frames partially. I tied the comb into the frames with common quarter-inch tape, passing it round the frames and tying it in a knot on the top of the bar—two tapes to each bar. The next day my neighbours could scarcely believe in the change, so quiet and earnestly at work were the bees. On the third day after, I took out each frame and detached the tape. This hive is doing very well, and has plenty of sealed comb. The great drawback to the frame hives is the price—one guinea—and carriage each hive is no trifle, to a poor man an impossibility. The above transfer was made into a native hive. A simple square frame, with notches fore and aft for the bars and frames, is sewn on to a square straw hive, which is made on a frame of wood; this forms the body of the hive, and when the bars are in their places, their top surface is flush with the top surface of the top frame; the lid is a frame of wood screwing on to the other frame, but, as it is made broader fore and aft than the lower frame, it overlaps the bars when *in situ* and keeps them steady; no travelling or



a. Ventilator—a wooden flap.  
b. Hinge. There are two to each ventilator.  
c. Pulley over which passes the closing rope.  
d. Rope for opening, with ring at the end to hold by a nail or hook.



extraordinary position can upset them. On this frame, let into its upper quarter of thickness, is a plate of glass, leaving ample room beneath for the bees to pass over the frames, and facilitating inspection without disturbance. These hives cost me, complete, under 10s. To my Woodbury straw hive I have adapted a plate of glass as the lid, so that inspection is easy at any time, and I keep this plate quite loose, loosening it almost daily without the notice of a single bee. A six-sided hive, with a rectangular top for six frames only, has been made in the same way. My third experiment was made, as the commencement of what I made inquiries about in your Number of April 18th. On the 5th I brought home the bees driven from a stock in a neighbour's apiary, and on the 6th I brought home a second and joined them to the first swarm. Not a dozen bees were killed, and only the queen was found with one bee attached by its sting to her, early the next morning. On the fourth day I saw pollen being carried in, and on the sixth it was carried in freely, and robbers were vigorously expelled. They took half a pint of thick syrup daily for the first three days, then only half that quantity daily; now they have comb, as they have sealed up with wax much of the perforated support to the feeding bottle. On the 7th I brought home another driven swarm, and joined them to the artificial maiden swarm of my last letter. There were quite two quarts of bees, but the union was not effected without fighting, and I have to lament a good pint of bees. I could not find the vanquished queen, but on the 10th they had settled down quietly, and I see the stock is most certainly the stronger of the addition.

I shall continue the experiment of making stocks from my neighbour's condemned stores, and shall be glad to inform you of the results as they occur, with the accidents, trouble, and failures, &c.—M. D.

#### USING FOUL-BROOD COMBS—BEES NOT HATCHING BROOD.

A SHORT time since I fumigated the bees of a condemned stock, and to my great annoyance discovered, for the first time in my experience, foul brood; the grubs had perished shortly after being sealed over, they were quite brown, and the smell was very offensive. The grubs were placed in the right position. For the satisfaction of those who amuse themselves by making artificial swarms, I may mention that this foul brood was found in a natural swarm of this year, working in a plain deal box in which bees had never been placed before, and they had never been meddled with in any way. The bees, which are common black ones, I placed in an empty hive, where they have built some combs, which I want for guidecombs next season. Now, I want to know if I may venture to use these combs if the queen has not laid any eggs, which I suspect is the case, as I have not seen any pollen go in.

One of my stocks this summer had a failing queen, she had almost ceased laying, and the population was fast diminishing in June. The wise bees raised a young princess, and smothered the old lady; she was imprisoned at least three hours, and there was not the slightest excitement. In August the population was increasing, and there was a great deal of brood in the hive.

Referring to the query in page 203, the want of a sufficient number of bees in the hive over which "F. F." placed the broodcombs, is the reason why they did not hatch out the brood. I have never found them refuse to do so, if they could spare the bees from below. The plan which I adopt is to suspend the broodcombs in loops of wire passed over the bars in a super. Instead of uniting bees, I always give the stocks I intend to keep, the whole of the brood I find in my condemned hives.—J. L.

[We should be afraid to use the combs built by bees from a foul-breeding stock, and would advise their all being consigned to the melting-pot without delay. Both boxes should also be well scraped and purified with chloride of lime, and in order to be on the safe side, we should lay them aside for a couple of seasons.]

#### BEE-HIVE STANDS.

I AM desirous of enlarging my bee-hive stand, and making it applicable for different kinds of hives, and inspecting them with impunity. Can you furnish me with a working plan, and do you recommend weather-boards in front?

The honey harvest with me has not been abundant. The bees have not worked freely in the supers. I have taken two

combs, 10 lbs., one with brood-comb and a queen. My best store of honey was gathered from the pollard elm, where my first swarm settled in the spring. Having failed in securing the bees then, I determined on getting the honey afterwards; so about a month ago, accompanied by a labourer, we sallied out one evening, and having bored a hole in the side of the tree, only partially succeeded in smoking a few up to the hive on the top. We then laid open a hole with a billhook, and exposed some beautiful comb full of honey. My assistant took out sufficient to fill two milk-pans, and on looking into the hole we found thousands of bees. These were left till the third day, as I was unable to look after them the following day, and on going to the tree, I found they had all taken wing. Whither? Perhaps to the domicile of some weak neighbours, who had not strength to keep them out.—B. B.

[We prefer a verandah or lean-to shed closed at the ends, but either entirely open in front or closed only with pheasant wire, with a good-sized opening opposite the entrance of each hive. Possibly the bee-house sketched and described by "A Bucks BEE-KEEPER" last week, may meet your wishes.]

#### IS THE SMELL OF GAS TAR PREJUDICIAL TO BEES?

WILL you inform me if gas tar is prejudicial to bees? I am about to build a small bee-house, and I propose to use "gassing," as it is called here, for a short space in front of the house, as being cleanly, free from weeds, and affording a smooth surface from which to lift up fallen bees. I hesitate, however, until I have learnt whether it is likely to be an annoyance to the bees.—Novice.

[We are not aware how far the smell of gas tar is likely to be prejudicial to bees. Possibly some of our readers may be better informed on this point than we are, and if so we should be much obliged by their communicating the results of their experience.]

#### MANAGEMENT OF A SWARM SUPERED WHEN HIVED.

ABOUT the 20th of June a swarm of bees came to my place in the country, and were bived that evening in a straw hive with a straw super on them. It was the first occasion on which I had anything to do with bees, and did not know at the time that it was wrong to put the super on when I did. I have not looked at the super since, but the hive I have looked at, and it appears about one-third full of comb. What ought I to do—remove the super or not?

Can you tell me what kind of bee is the enclosed?—R. E.

[We should remove the super, strengthen the stock by driving and adding to it the inhabitants of a condemned hive, and then feed liberally, so as to enable them to extend their combs and store them sufficiently before winter.

The insect enclosed in your letter is not a bee but a fly, *Eristalis florens* of Linnaeus.]

#### OUR LETTER BOX.

**PROFITABLE POULTRY-KEEPING** (*One who is Fond of Them*).—The subject has been discussed repeatedly, and the evidence seems to preponderate against their being profitable if all their food has to be bought. Where they have a good run, are carefully attended, and early chickens are successfully reared, we believe they can be kept profitably. The insertion of theoretical conclusions is not desirable.

**LEG WEAKNESS** (*G. R. B.*).—Let the Dorking cockerel have bread soaked in ale once daily, and plenty of green food, besides his ordinary diet. Give him 4 grains of citrate of iron daily, mixed with a little soft food, such as a mash of barley meal. He will probably regain strength in his legs gradually.

**WHITE DORKINGS** (*T. A. W.*).—Apply to Mr. Martin, Linton Park, Staplehurst, Kent.

**FEEDING BEES IN A COMMON STRAW HIVE** (*C. A. M.*).—If there is the usual cork in the top of your common straw hive, draw it out and feed through the aperture. If none exists cut a hole about 2 inches in diameter with a sharp penknife. Administer food by means of a pint bottle, with its mouth tied over with a bit of cap net, inverted, and the neck inserted in the aperture. Commence feeding at once, and replenish the bottle every evening until a sufficient quantity has given.

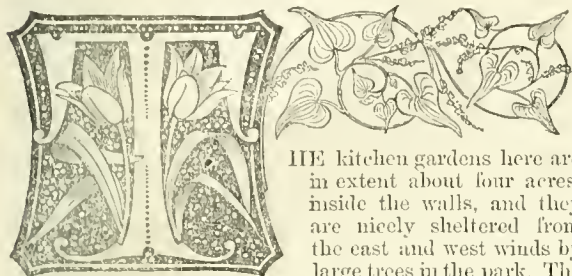
**FEEDING A UNITED STOCK OF LIGURIAN AND COMMON BEES** (*A Sussex Bee-keeper*).—Having been fortunate in adding black bees to your Ligurian queen you are now doing quite right in feeding liberally. The supply of food should be continued until the box becomes pretty well filled with comb, and its contents weigh from 15 to 20 lbs. nett.—A DEVONSHIRE BEE-KEEPER.

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPT. 26—OCT. 2, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
26	TU	Ivy flowers.	65.2	44.2	54.7	19	54	af 5	48	af 5	8	11	af 9	7			269
27	W	Calceola articulata flowers.	65.1	45.3	55.2	22	56	5	46	5	1	10	1	8			270
28	TH	Elm leaves turn orange.	64.6	44.3	54.4	21	57	5	44	5	55	1	0	11			271
29	F	MICHAELMAS DAY.	65.2	44.4	54.8	24	59	5	42	5	56	2	moru.	10			272
30	S	Cherry leaves turn red.	65.0	43.6	54.3	23	1	6	39	5	13	3	5	0			273
1	SUN	16 SUNDAY AFTER TRINITY.	65.5	45.2	54.3	20	4	6	37	5	45	3	17	1			274
2	M	Horse Chestnut leaves fall.	64.5	44.2	54.3	19	6	6	35	5	16	4	34	2			275

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 64.7°, and its night temperature 44.4°. The greatest heat was 79°, on the 27th, 1832; and the lowest cold, 17°, on the 2nd, 1853. The greatest fall of rain was 1.68 inch.

## THE RIBBON-BORDERS AND BEDDING-OUT AT OULTON PARK.



THE kitchen gardens here are in extent about four acres, inside the walls, and they are nicely sheltered from the east and west winds by large trees in the park. The

principal approach to them from the hall is through the arboretum and flower garden; they are very pleasantly situated, sloping gently to the south. A main walk passes through them from north to south, and they are divided in the centre by the Peach-wall, famed in years gone by for its fine Peach trees, none of which now remain, for they were killed by the severe frost of 1860-61. This wall runs straight across the centre of the gardens from east to west.

On the north side of the gardens are the forcing-houses, vineries, Peach-houses, &c., and on each side of the walk leading from the flower gardens to the vineries, is a border 10 feet wide; these borders, when I came to Oulton five years ago, were filled with old Apple trees, many of them in the last stage of decay; beneath the Apple trees the borders were in summer filled with annuals, a few Geraniums, &c. I at once asked to be allowed to clear all the old trees away. This was done; then about 30 feet of the old Peach-wall was brought very abruptly into view. There being only a narrow doorway through this wall leading into the upper gardens, I at once suggested the clearing away of this portion of the Peach-wall, so that the line of vision should not be interrupted. This was after a little while agreed upon, the breach in the wall was made to the desired width, and a nice pillar was built on each side to hide the ends of the wall as much as possible. A splendid position for ribbon-borders was thus opened out, with a fine background of trees beyond.

When we had cleared the centre wall away another difficulty presented itself—the portion of the north-boundary wall through which there is a doorway leading into the framing ground became very unsightly; this difficulty was overcome by raising a large mound immediately in front of the walk. This was done by driving a lot of oak stumps into the ground, one tier above another; there in the summer time are planted *Humea elegans* and large Scarlet Geraniums, and evergreens in the winter. This completely hides this portion of the wall; that on the right and left is covered with the lean-to vineries and forcing-houses, and the mound is a beautiful object when seen from the bottom of the walk, which is 140 yards long. The wall is completely hidden, and the graceful *Humeas* waving gently in the breeze, give it a very charming appearance. The effect of this mound is very much improved by two or three

groups of *Humeas*, which are placed in the centre of the ribbon-borders right and left of the walk, as you pass through between the Peach-wall; these are backed up by Dahlias, and in the front close to the edge of the walk are placed some *Fuchsias*. The *Humeas*, Dahlias, and *Fuchsias*, are planted alternately, the ribbon rows covering the ground beneath them. This portion of the borders is planted as follows:—1st row, next the gravel-walk, 9 inches wide, *Cerastium tomentosum*; 2nd row, *Lobelia speciosa*, dotted at intervals with *Geranium Golden Fleece*, then comes a mass of *Verbena Maonetti*, *Princess Victoria*, 4 feet wide, this is backed by a band of *Geranium Bijou*, 18 inches wide. This arrangement forms the centre of the border, it is planted just alike on each side of the walk; the mass of the little *Verbena*, as seen coming from either up or down the garden, has had a charming effect, it has been the admiration of all who have seen it. It is in colour a beautiful violet-shaded magenta. It is a hybrid I obtained last year by crossing the little *Maonetti*, *Impératrice Elizabeth*, with *Velvet Cushion*. This variety has obtained during the past summer the highest award the Floral Committee of the Royal Horticultural Society could give it. I have little doubt but that it will become one of the greatest favourites amongst the novelties for bedding-purposes next year. The flowers are of much larger size than those of the *Maonetti* section. The habit is all that could be wished, and the ground is covered with its beautiful trusses of brilliant flowers from a very early period in the summer till the frost comes in October. It can be kept in cold pits in perfect health all through the winter months. It strikes very freely, and is altogether one of the most chaste and beautiful plants for flower garden decoration I have ever seen. A very large plat of Dahlias, with the ground between them covered with it, has a very charming appearance. Mr. Gibson will, no doubt, turn this to great advantage, by planting it amongst his fine-foliaged plants at Battersea Park, when he becomes aware of its adaptability for that purpose.

Having described what is planted on the mound at the top of the ribbon-borders, also the arrangement of the centre, I will now proceed to describe the principal borders north and south of the Peach-wall, or centre of the gardens. Hitherto, I have each year planted the borders on each side of the walk alike, but this season for the sake of more variety I have planted each border differently.

On entering the kitchen garden from the flower garden or south side, the right-hand border is planted as follows, beginning from the gravel:—1, *Cerastium tomentosum*. 2, *Lobelia speciosa*, dotted at every 4 feet with a plant of *Geranium Golden Fleece*. 3, *Verbena Maonetti* *Princess Victoria*. 4, *Verbena Purple King*, dotted at the same distance in the rows as the *Lobelia* with *Geranium Christine*. Care was taken in planting to have the *Geraniums* planted alternately, so that each plant of *Golden Fleece* should form a triangle with two plants of *Christine*. 5, *Geranium Flower of the Day*. 6, *Calceolaria Gaines's Yellow* (this I find one of the best for standing all weathers). 7, *Geranium Boule de Feu*. 8, *Purple Zelinda Dahlia*. 9, and last, a narrow row of *Calceolaria Amplicaulis*. This



shade of yellow gives a very nice finish to the border, the bloom of the *Calceolaria* just peeping above the purple *Dahlia*.

The plants of *Golden Fleece* dotted in the row of *Lobelia speciosa* gave it a very pretty appearance, as did the *Christine* in the row of *Purple King*. It was a great relief to the eye, and had the effect of toning down the colours to a very pleasant degree.

In this border the arrangement of colours will appear thus:—

1. White.
2. Blue and yellow.
3. Violet-shaded magenta.
4. Purple and pink.
5. White and cerise.

6. Yellow.
7. Scarlet.
8. Deep purple.
9. Light shade of yellow, or straw.

The left-hand or opposite border is planted, commencing from the gravel, with—1, *Cerastium tomentosum*; 2, *Verbena Velvet Cushion*, dotted with *Geranium Golden Fleece*; 3, *Verbena Hebe*; 4, *Stella Geranium*; 5, *Purple King Verbena*, dotted with *Princess Victoria*; 6, *Geranium Bijou*; 7, *Calceolaria Gaines's Yellow*; 8, *Purple Zelinda Dahlia*; 9, *Calceolaria amplexicaulis*. The colours in this border will be—

1. White.
2. Deep velvety purple and yellow.
3. Pink.
4. Crimson scarlet.

5. Purple and magenta.
6. White and scarlet.
7. Yellow.
8. Purple.
9. Light shade of yellow or straw.

We now pass through the opening made in the *Peach-wall* or centre of the garden, which has already been described above, in a straight line, and come into the upper or north gardens. Two of the most beautiful objects in these borders are *Verbenas General Lee* and *Claret Queen*. These are two of the best of my last year's seedlings of the old section. *General Lee* has a very free habit and style of growth with neat foliage, and flowers very profusely all through the season. Good flowers may be seen of this variety long after all other *Verbenas* have disappeared. The colour is a rich crimson-shaded purple. This with the following varieties will be much sought after for bedding-purposes, as they are quite new in colour, and all possess the desired habit for bedding-purposes. Amongst the many thousands of *Verbenas* that I raise yearly, I only select those of good habit, the type of which is *Purple King*. Those magnificent flowers one sees at the London exhibitions are only fit for pot culture, plant them out in the open ground and they are nothing better than weeds. We do not want form so much in the bedding *Verbena*, but the qualities most desirable are a great and lasting profusion of bloom, distinct colours that are not easily faded by sun or rain, and last, but not least, a good, compact, and erect style of growth. The varieties named above will produce five or seven trusses of bloom to every one produced by the strong-growing large-leaved kinds, such as *Foxhunter*, *Lord Leigh*, &c. The following are the best of my novelties for next year:—*General Lee*, *Claret Queen*, *General Grant*, *Loveliness*, *Laura*, and *Rosignole*.

On the border on the right hand as we go up the garden, we commence with No. 1, *Cerastium tomentosum*; 2, *Lobelia speciosa*; 3, *Golden Fleece Geranium*; 4, *Verbena General Lee*; 5, *Geranium Flower of the Day*; 6, *Verbena Purple King*; 7, *Yellow Calceolaria*; 8, *Purple Zelinda Dahlia*; 9, *Ampelicaulis Calceolaria*.

This border for arrangement of colour, the evenness of growth of each row of plants, and for general effect I consider the best of the six borders. From the *Cerastium* in the front row to the *Calceolaria* at the back, the border all through the season has presented a perfectly even surface, and this without much trouble having been bestowed on it. My great object in arranging my ribbon-borders, as well as the beds, is to arrange the plants so that they will each support the others, all the trouble required being merely pulling a stray flower from an adjoining row into its proper place. I also plant them so that the colour shall harmonise without picking out any of the blooms from the plants. This system of picking the blooms out always grieves me beyond measure wherever I see it done. The colours in this border will stand thus—

1. White.
2. Blue.
3. Yellow.
4. Crimson-shaded purple.
5. White and cerise.

6. Purple.
7. Yellow.
8. Dark purple.
9. Light yellow or straw colour.

The opposite or left-hand border commences with—1, *Cerastium* next the gravel; 2, *Lobelia speciosa*; 3, *Golden Fleece*; 4, *Verbena Claret Queen*; 5, *Geranium Bijou*; 6, *Verbena Purple King*; 7, *Yellow Calceolaria*; 8, *Purple Zelinda*; 9, *Ampelicaulis Calceolaria*.

The colours in this border are as follows:—

- |            |                       |                           |
|------------|-----------------------|---------------------------|
| 1. White.  | 4. Claret.            | 7. Yellow.                |
| 2. Blue.   | 5. White and scarlet. | 8. Dark purple.           |
| 3. Yellow. | 6. Purple.            | 9. Light yellow or straw. |

The plants are put out thickly when the borders are first planted, so that the ground is covered almost directly. We do not have to wait till the summer is nearly over before the ground is covered. The number of plants required for the six ribbon-borders every year is upwards of 13,000.—J. WILLS.

(To be continued.)

## FORMS OF OUR FRUIT-HOUSES.

AFTER the lean-to form the orchard-house is, undoubtedly, the next in importance; and though in discussing its merits I run the risk of offending some of its advocates, I do not think I can properly elucidate my opinion of how important it is that the shape of the house and the mode of cultivation should each be adapted to the end in view, without entering upon it; the better, therefore, to guard against a misunderstanding, I will commence by defining what I understand the term "orchard-house" to mean.

My first was 12 feet wide, span-roofed, with five-foot sides; my next 20 feet wide, also with a span roof, and the same height at the sides; my third 36 feet wide, with three ridge-and-furrow roofs, each 12 feet wide, and 7 feet high at the sides, and now, I believe, they are built 30 feet wide, with a single roof. Let me take these as samples of orchard-houses—that is, a span-roofed house of some sort, having glass all round, and with no more pipes than are sufficient to keep the frost out. Lean-to houses are not orchard-houses, even if fruit trees are grown in them. They have been used for forcing dwarf trees, either in pots or planted out, since Miller's day, and I am confining my attention to what may be called the orchard-house system of cultivation, leaving out the question of pruning and the merits or demerits of growing trees in pots.

These houses have succeeded in preserving the blossoms from frost, and, in the south of England, ripening the fruit; but as you come north their success has depended on their size till the midland counties are reached, where their usefulness ends, even with the addition of pipes, and can only be restored by turning them into forcing-houses.

My orchard-houses went the usual way; the first year my new trees had abundance of blossom, but the fruit fell off with the cold winds; the next year I had a wider and larger house ready for them, but less bloom, and the summer's result was the same. Still, reading of the advantages of large houses, I persevered and built a larger; in this I had little bloom and less fruit. How many hundreds of gentlemen and gardeners can say the same was their experience? The large houses keep the spring frosts out, but in the autumn the sun has not power enough to ripen either the fruit or the buds. The small houses I saw described in your *Journal* of September 5th, in the "Doings of the Last Week," by "R. F." under "Fruit Garden." I have already commended this description to one gentleman's attention, who "has a beautiful large orchard-house, supplied with pipes to use in cold weather, and whose Peaches are over out of doors, but in the orchard-house are not ripe yet, though he has had this year a new gardener who knew how to manage them." I said if they would use the pipes they could, I thought, ripen them before November, at which time "R. F." wishes to ripen his Plums.

He is quite right; their proper use is for retarding-houses. Let me give the quotation. "One great advantage of orchard-houses is, that in a forward season like this you may prolong the season, by keeping the house with abundance of ventilation, so as, in fact, to make it cooler than the out-door temperature. If ever we should get the chance we would have a cool glass house for such Plums as *Reine Claude de Bavi*, and *Coe's Golden Drop*, as in many seasons, we believe, they could be thus had beautifully coloured and rich in flavour up to November." This is exactly what I did for four years under the advice of Mr. Rivers. Turn to his book on orchard-houses, and under the head of "ventilation" you will find—"Now let me advise any one who has such a servant, to open all the shutters about the first week in July, and have them nailed so that they cannot be closed; they may remain so till the first of September." Last year, in the third week in August, I had a visit from a French friend of mine, with whom I had often stayed,

and on such occasions had much conversation upon gardening, and particularly fruit-tree cultivation. He arrived after dark, and when he had taken some refreshment our conversation naturally turned upon a subject so interesting to both. "Well," he said, "you will show me great things in your garden to-morrow?" "Yes, I will show you what will interest you, what I think you cannot see in all France—a proof that our climate here, in the north of England, is superior to yours for early fruit." "But, Monsieur, it requires to know you a long time to believe it." "Then I will prove it before we go to bed." "You will prove to me that your summer months—for it is the summer months that ripen the fruit—are superior to ours in France?" "No, excuse me, I have only to prove that they are colder; you speak of the end of a crop. Let us begin at the beginning. First, the trees must have a rest; we will say my trees have made their growth and set their buds, what they want then is cold weather to make them lose their leaves; have you that in France?" "I begin to understand you; then tell me what you can show me." "Peach trees in perfect health without leaves, without leaves and still in August!" "My dear fellow you have proved it, if you can ripen their fruit as early in proportion; but tell me how you in England do this." "I told him I did as Mr. Rivers recommends; when July came in I shut off the heat from the pipes and let the night air in. In July the thermometer at night will range about 55°, in August 45°; of course, I mean, in a house under this treatment.

Any one spending, as I did, three years ago, the months of September and October in south-western France, Switzerland, and northern Italy, could not fail, while admiring the beautiful autumnal tints, to be impressed with the influence cold night temperature has on vegetation. Mr. Rivers says his French friends exclaim on entering his orchard-house, "*Voilà notre climat!*" and so I kept thinking this must be my climate. The following August and September the thermometer marked 95° in the day, and 45° at night, in my Peach-house. I am quite convinced that nothing that has been written by the greatest enemies of orchard-houses has done them a tithe of the harm that this advice so often urged by Mr. Rivers has. Try my practice, those who have orchard-houses; put in pipes, and in proportion as you are north advance the time of starting the house, and your troubles will cease, for you will have as warm weather as there is at Sawbridgeworth, to ripen your fruit and ensure your trees being well set with buds before the summer is over; but do not continue to think you can ripen your fruit with a temperature, and in spite of a treatment that has sent mine to rest two years running.

Orchard-houses have taught us many things, but perhaps the most valuable of all is the knowledge of the sun's power over them. The large firms who supply pot trees have all built immense houses, and though I do not recollect ever seeing any account of the temperatures they thus obtain, I know that these are very high, and the reason why they thus show us this great heating power of the sun is because they are, so to speak, half empty, the pot trees they are built to grow seldom attaining in such hands more than 6 feet. I have said I know that the temperatures run very high; I compute them at 100° for May and September, and 110° to 120° for June, July, and August. If I am wrong, let some of these firms speak. It is doing no service to horticulture to lead purchasers to think these little trees are set with buds at low temperatures; and let me induce some who are building to accept the experience thus gained, and build large, square, tall houses, to train their Vines and fruit trees that they may take advantage of cubic measure, at the same time giving ample access to prune or syringe the trees, and by growing the foliage so that it will not keep out the sun's rays, save their coals while they are warming their house by a much preferable heat, and be able to enjoy higher temperatures than it would be safe to attain by any other means.—G. H.

SURELY your correspondent "G. H." has taken to gardening blindfolded, or he would not say we "have actually retrograded in building houses." With respect to his strictures on lean-to houses and Pine-pits being the same that Miller and Speechly recommended a century ago, I can see no better mode of building houses for early forcing in our latitude. "Large, square, tall houses" may, perhaps, be adapted to some gardens. As a rule the parallelogram is the fittest shape for fruit-houses, either lean-to or span-roofed; and if houses of the first-named sort are well built and well adapted by their angles for forcing

during early winter, no better form can be invented. There is no retrograding in employing such houses.

With regard to tall span-roofed houses, "G. H." may see scores of them in different parts of the country from 20 to 30 feet wide, and from 50 to 250 feet in length, and but few of them with Vines and Peach trees trained under the glass so as to exclude the sun. It is now tolerably well known that standard and half-standard Peach, Nectarine, Apricot, and other fruit trees planted in the borders of such houses, their heads carefully pruned in summer so as to make them take a lateral growth, soon become most abundantly fertile, and owing to the sun shining through the unshaded roof the most perfect ripening climate is formed. The pruning of the trees is almost a work of pleasure, and there being no trellises to keep in order and to keep the young shoots tied to, the labour is but trifling.

As to the transverse trellises running from front to back for lean-to houses, although when furnished with leaves or shoots they would look much like a Lincolnshire decoy for wild fowl, yet they would give much greater produce to the market gardener than trees trained under the roof. I know of one lean-to forcing-house for Peaches, the back wall is covered with fine trees, the area of the house has espaliers trained to trellises as if they were common garden trees, and the intervals are filled with pyramidal Nectarines in pots. The wall trees bear well, the espaliers and trees in pots ditto, and all is satisfactory, the produce being much larger in my opinion than if a trellis were placed under the glass in the old way, occupying all the space and not allowing any sun, except a scant supply to the upper part of the back wall, to penetrate the leaf-covered trellis.

The training of Vines to upright rods, and in some instances to trellises, in all cases leaving the roof clear, is a nice mode of culture. This is treated of by Mr. Rivers in "The Orchard-House." He states that the produce of a house with Vines trained to upright stakes will be more than 100 per cent. in excess of a house of the same size where the Vines are trained under the glass. I have one house 20 feet by 14—it should be 7½ feet high at the sides and 15 feet high in the centre, at present it is not so high—well, in this house I have a path in the centre, and in each side-border are twenty-four Vines, three rows in each; forty-eight Vines in all. I hope to see them reach 12 feet high on the average, and I can see that their produce, for they have commenced to bear, must be enormously in excess of roof Vines; for I could only have twelve roof Vines in my small house, giving me 180 feet of bearing stems, whereas my forty-eight Vines will give me 576 feet. This calculation is, I am sure, school-boyish, but, I trust, easily understood. From the roof admitting every ray of sunshine the Grapes, even Frontignans, ripen well.

It remains to be calculated which kind of culture would give the larger produce in a given space. We must suppose a tall span-roofed house 24 feet wide, 8 feet high at the sides, and 16 feet high in the centre, the roof kept perfectly clear, and the area of the house planted with espaliers trained to trellises either parallel to the house or transverse; in the former case there would be room for six rows of espaliers trained to trellises averaging 12 feet in height; there is not a doubt but such an arrangement would give an immense quantity of fruit, and consume labour to an equal degree. We must now take a house of the same dimensions, and plant it with low standard trees, their heads pruned so as to give them a lateral tendency. The expense of the trellis, no trifle, would be saved, and also the constant labour all the summer of tying and training. Two rows of such trees could be planted on each side of the central walk, or the centre of the house could be occupied with the trees, and a path made on both sides. The espaliers would require to be planted 20 feet apart, so that a house 60 feet long would in its six rows contain eighteen trees. Standards might be planted 10 feet apart, and twenty-four permanent trees be planted; but for the first five or seven years temporary half-standards might be planted, so that the house might be made to contain forty-eight trees; these would give a large produce.

The whole matter is full of interest; but your correspondent "G. H." must not think that "this one idea, that nothing will succeed well that is not trained under glass" (the roof), is the idea of the present day. There are hundreds of "tall houses" in which the roofs are clear, and fruit trees are grown in them to great perfection. A friend writes me, "My pyramidal Peach trees are marvellously beautiful, they are 12 feet high, and covered with fine fruit from head to foot; the fruit at the lower part of the trees quite as fine as that near the roof."



There is no doubt but that our hothouse builders like the old-fashioned, expensive, heavy-raftered houses, and, of course, when building vineries, never think of recommending any other mode than training Vines and all fruit trees under the roofs in the old way; but they are men that make money, and have but few ideas of what may be done in growing fruit; it is not their province, they are too much engaged to think of such matters. The new ideas must be carried out by intelligent amateur gardeners, and such men as your correspondent are the right men to do the work.—VITIS.

### LARGE PEACHES.

THE largest Peaches I have known of this season were grown at Hallingbury Place, on a tree trained to the back wall of a lean-to orchard-house, in the compartment used for forcing Peaches so as to have them ripe in June. They were fruit of that fine late Peach, Desse Tardive, and measured 12 inches in circumference. It is remarkable that late Peaches when forced grow to an enormous size, they ripen slowly, and seem to keep on increasing in size, when early sorts in the same climate have ripened, and are cleared off. They, in fact, require a warmer climate than walls or common orchard-houses, for it is well known that such sorts as the above, and others of the same race, the Late Admirable, and the Bourdin, are apt to drop off just before the period of ripening, causing much vexation to the cultivator. The largest Peaches grown here were from a tree of the Golden Rathripe in a pot, they measured 10½ inches in circumference.—T. R.

### AUTUMN-BLOOMING ROSES.

ALTHOUGH many persons are ready to pronounce the term "Hybrid Perpetual" a sham, and declare that we ought to abandon it for some other more definite, I think every year convinces us the more of the great value of this class for autumnal purposes. I do not mean for exhibition; for as a rule (there are, of course, exceptions), the attempt, unless from immense collections, to gather together twenty-four or forty-eight good Roses at any one time is a failure. A Rose is a Rose at all times, a "sweet pet," a "darling favourite;" but, as fond mamma cannot see the failure of beauty in their Cecylia and Gwendolines, even after a few seasons of London life, so I fear we are apt to overlook the deterioration of our children, when our trees, after enduring the heat of a summer and blooming vigorously, vouchsafe to give us some blooms in autumn. My own experience on the matter is, that generally speaking the boxes put up at the end of August or beginning of September contain some half-dozen really good Roses, and that the rest are to be classed under various degrees of badness, and this even with those who have whole acres of Roses to cut from. In the same way the forced Roses are generally (I mean boxes of cut blooms), while very fragrant, very charming, &c., devoid of much interest to a genuine Rose-grower; yet who can go round a rosery and see the large flowerless bushes of summer Roses, and then on the Hybrid Perpetuals, and Teas, and Noisettes behold blooms here and there showing themselves, without feeling the immense advantage the latter classes present? I think, indeed, their great beauty is this, that you can cut every day some three or four Roses, which, placed singly in those pretty vases made for the purpose, gladden the eye and refresh the mind of a votary of the queen of flowers. Very, very often these blooms are equal to any produced in the summer—not those which may be gathered at the end of August, when the sun's influence is generally too great, driving them into bloom before they have time to think about it; but from the second week in September, or through October if the weather be favourable, and even into dreary dark November, I have had blooms of Charles Lefebvre, Senateur Vaisse, Triomphe d'Amiens, and others, equal to any one I have gathered in the height of the Rose season, and I think such blooms quite redeem the Hybrid Perpetuals from being a sham.

I hardly think that one can safely give a list of autumnal-blooming Roses. Where a large collection is grown, most probably the greater portion of the varieties will at some time or other give blooms; and where the collection is a small one, it would be perhaps unwise to recommend particular sorts for this object alone. From adopting in some of my beds the principle of pegging-down I have had some wonderful shoots from the centre of the plant; Duc de Cazes, Lord Raglan,

Jules Margottin, John Hopper, and others having made shoots of 6, 7, and 8 feet in length, and the tips in many instances shooting out again and giving bloom-buds; while, again, as far as one can judge, many of the best of the newer kinds, such as Duchesse de Morny, Madame Victor Verrier, Pierre Notting, and Baron Pelletan de Kinkelin are good for this purpose. Amongst those that I have found most useful in this respect (my experience may not be that of others), are Général Jacqueminot and its very near neighbour Triomphe d'Amiens, Charles Lefebvre, Jules Margottin, Duc de Cazes, General Washington (better in autumn than in summer), Senateur Vaisse, Madame C. Crapelet, Baron A. de Rothschild, Madame Caillat, Maréchal Vaillant, Anguste Micé, Madame Knorr, Eugène Appert, Géant des Batailles, John Hopper, Madame Victor Verrier, Pierre Notting, Baron Pelletan de Kinkelin, and Caroline de Sansal. Bourbons are of course always to be depended upon; and such kinds as Souvenir de la Malmaison, Baron Gonella, and Catherine Guillot will always give blooms. They are not so fragrant as the Perpetuals, but nevertheless add much to the number and beauty of autumnal Roses.—D., Deal.

### LILIUM CULTIVATION.

(Continued from page 229.)

OUT-DOOR CULTURE.—Perhaps there is no flower so fine in its season as the White garden Lily (*Lilium candidum*), so well known and esteemed for its snow-white fragrant blossoms, produced in such large heads as to fit it for large central groups in beds or arboretums.

There are many excellent hardy species and varieties of Lilies, and I shall take them in the following order:—

*Lilium candidum* (White garden Lily), flowers white, fragrant, and handsome; 3 to 4 feet.

*L. candidum plenum*, a double form of the preceding, white flowers, fine; 3 to 4 feet.

*L. candidum striatum*, white and purple; 3 to 4 feet.

*L. candidum foliis inteo-variegatis*, a fine variegated form of the species, with golden variegation, and white flowers like those of the species; somewhat variable in character. I fear that it will not retain its variegation permanently, if it do so it will be a favourite. 3 to 4 feet.

*L. candidum foliis argenteo-variegatis*, a white or silvery variegated form of the species, having white flowers; 3 to 4 feet. This is not much as regards variegation, still novel; the flowers, however, are fine.

*L. candidum foliis maculatis*, a blotched-leaved kind, rather more dwarf than the species, with white flowers; height, 2½ to 3 feet.

*Lilium bulbiferum*, orange red, dwarf, and fine; 2 feet.

*L. bulbiferum umbellatum*, orange red, splendid; 2 feet.

*L. bulbiferum umbellatum fulgidum*, a dwarf form of the last with flowers of a richer hue; 18 inches.

*L. bulbiferum umbellatum punctatum*, a spotted variety of umbellatum, and very fine; 2 feet.

The last four have a splendid effect. They vary in height from 1½ to 3 feet, according to soil, &c., and have dark green glossy leaves and magnificent terminal racemes of rich orange-red cup or saucer-like flowers. In herbaceous borders, and early groups in the flower garden, they are gorgeous.

*Lilium aurantiacum*, orange yellow; 3 feet.

*Lilium atrosanguineum*, blotched brown on orange-red ground; height, 18 inches to 2 feet.

*L. atrosanguineum rubens*, orange red, blotched crimson; height from 18 inches to 2 feet.

*L. atrosanguineum Vulcan*, very like the last.

*Lilium venustum*, little different from the well known Orange Lily (*Lilium aurantiacum*), flowers orange; height, 18 inches to 2 feet.

*Lilium kamschatkense*, orange; 18 inches.

The last six have saucer-like flowers like the four preceding them, and might not inaptly be termed the "cup" section.

*Lilium Thunbergianum*, and its variety grandiflorum, already described, and not distinguishable from venustum.

*Lilium pomponium*, yellow; 4 feet.

*L. pomponium aurantiacum*, orange; 4 feet.

*Lilium canadense*, shaded orange; 3 to 4 feet.

*Lilium chalcodonium* (Scarlet Martagon), brilliant scarlet; 3 to 4 feet.

*Lilium colchicum*, rich yellow, finely spotted; 4 feet.

*Lilium Martagon*, purple; 3 to 4 feet. There was a double variety, which I believe is now lost to cultivation.

*L. Martagon sepalis albis*, white; 3 to 4 feet. The double form of this is not now to be had.

*Lilium superbum pyramidale* is the most stately of the North American Lilies, remarkable for the number and elegance of its flowers of rich spotted orange. In rich soil, and especially in that which is moist and peaty, it attains a height of 7 or 8 feet. The flowers are disposed in a graceful manner in the form of a chandelier, and are salmon-coloured and finely spotted.

*Lilium speciosum* (lanceifolium) varieties, and *L. tigrinum*, previously described, with the eight last named, are of the "Turk's-cap" section, of which the Martagon is the type. To these may be added, as desirable for out-door culture, most of those named as suitable for cultivation in pots.

*Lilium Catesbei* is a beautiful dwarf species, with crimson and yellow spotted vase-like flowers; 1 foot to 1 foot 6 inches.

*Lilium pyrenaicum*, yellow; 3 feet.

*Lilium sinicum*, already noted, has smaller, narrow-lobed, vase-like blossoms, of a brilliant scarlet.

*Lilium monadelphum*, yellow, spotted; nothing extraordinary.

*Lilium exelsum* (testaceum), not equal to many, buff; 4 feet.

*Lilium Wallichianum*, large, fine, white; 3 feet.

Ground intended to be planted with the above Lilies should be dug deeply and be in good heart, or be made so by the addition of turfy loam, leaf mould, or rotten manure. Where the soil is very strong or adhesive, after providing efficient drainage, remove it to the depth of 18 inches or 2 feet, and replace it with turfy loam, if possible, or good sound loam, with an equal quantity of leaf mould intermixed. If the soil is good, but heavy, a little light sandy loam and sand will help to open it, and old mortar will answer the same purpose. All Lilliums do not thrive in the same soil, but those of the Martagon, or Turk's-cap section, do best in heavy or strong rich soil, with a clayey subsoil. The cup-shaped, or those after the type of the Orange Lily, are more suitable for sandy soils; but peaty soils will grow all the species perfectly, in fact, no place is so suitable for Lilies as a Rhododendron-bed, for there they exhibit a luxuriance of growth and profusion of bloom not found in those grown in loamy soils. They will also thrive well in certain strong loams, on clay, if free of stagnant water.

Lilliums are very suitable for smoky town gardens, especially the varieties of *L. speciosum*, which are much grown by amateurs near Bradford.

The soil being in good heart, neither too light nor too heavy, and drained so as not to become very wet during the winter, plant the bulbs in clumps of six as early in autumn as the decay of the stems will allow, choosing an open situation, placing them at a distance apart equal to their own diameter, and spreading out the roots, if any, equally on all sides, at about 3 inches below the surface; place each bulb with the crown upwards, and if the soil is wet, put a little river sand around and upon each bulb, finally covering with 3 inches of lightish soil. When planting all kinds of bulbs in the garden borders, it is desirable to drive a stake down in the centre of each clump, leaving it 3 or 4 inches out of the ground in order to indicate the position, so that in cleaning the borders or forking them over the work may be done without injuring the roots. Without such stakes the roots are apt to be dug up in winter, or otherwise injured. The stakes most suitable are those made of what is generally termed "heart of oak," split into pieces 1 or 1½ inch square, and 15 inches long. They should be pointed at the lower end, and that end laid on a wood fire, so as to become charred for two-thirds of its length, and then, whilst hot, dipped in coal tar, taken out immediately, and laid aside to dry. Thus prepared they will last nearly an ordinary lifetime, and their black colour prevents any unsightliness. They should be driven two-thirds of their length into the ground by the side of each clump, or in the centre of clumps composed of large bulbs, such as Lilliums. If the kinds are such as are not known at sight, it is well to cut a notch with a saw at the upper end of each stick, and have a book with the name numbered to correspond with the tally.

After planting it is desirable to cover the surface with an inch or two of partially decomposed leaves before severe weather sets in. This will materially protect the roots, as they are liable to suffer in consequence of the openness of the soil over them. Once planted they will need no further attention beyond staking such stems as appear likely to be broken by the winds; but the fewer the supports the more beautiful will be the group. After the stalks have decayed cut them off at the surface, and cover with a dressing of leaf mould in the autumn of each year, to be forked into the ground in the succeeding spring.

Although autumn is the best time to plant Lilliums, yet this operation may be safely performed from that time until spring, only it must be done before the shoots have commenced growing. The Turk's-cap section, however, cannot be replanted at any period without weakening the bloom for the succeeding season; the Cup section are not so particular in this respect, for they lose most, if not all of their roots annually, and these are not thick and fleshy, as in the Turk's-cap Lilies. Lilliums of all kinds should not be replanted oftener than once in three years, nor then if the roots are not too many to form a nice compact group. *Lilium longiflorum* and *L. japonicum*, or Brownii, do not lose the whole of their roots while in a state of rest. This should be borne in mind by the cultivator, as it will suggest the desirability of not removing the bulbs oftener than is absolutely necessary.

Though Lilliums will for the most part grow almost anywhere, they are worthy of a prominent position in the flower garden, or in groups in arboretums or pleasure grounds. For forming a group of the most unique description in Rhododendron-grounds the magnificent *Lilium superbum* or *L. superbum pyramidale* will hold its own against any of the gorgeous denizens of the flower garden, it is so stately as a plant, commonly attaining a height of 8 feet, and sometimes of 10 to 12 feet, and so remarkable for the number and elegance of its blossoms, and their graceful disposition. It does best in a good peat bed. *L. japonicum* is also very desirable for a bed. *L. longiflorum* is equally so, but of much less growth, and so are the varieties of *L. speciosum*.

In forming beds of *Lilium speciosum* in the open air choose a light, airy, yet sheltered situation. If the soil is of a peaty nature, and free from stagnant water, it will only be necessary to dig the ground to a depth of 2 feet, but if light and sandy mix with it a dressing of 3 inches of leaf mould and well-rotted manure in equal proportions. If it is wet and heavy dig out the soil to a depth of 2 feet; at the bottom place 6 inches of brick rubbish, and then fill to within 3 inches of the surface, raising the bed a little in the centre, with two-thirds turfy peat, such as the common Fern (*Pteris aquilina*), likes to grow in, and one-third turfy loam and leaf mould in equal parts. Thoroughly mix this compost by chopping it with a spade, and place the rougher portion at the bottom and the finer at the top. Arrange the roots in rows, circular or otherwise, according to the shape of the bed, 9 inches asunder, and the roots 6 inches apart for a permanent bed; place the large single-eyed roots in the centre, which may consist of the variety *cruentum*, planting two rows at least for a centre, but the width of the bed must determine the number of rows of one kind. The large roots with single eyes, which invariably grow the strongest, being in the centre, the double-eyed roots should be placed in the next row outwards, and so on through all the species or varieties, the small single-eyed roots being reserved for the outsides, unless too small to bloom, when they must not be placed in the bed at all. Next to *cruentum* plant one or more rows of *punctatum*, *rubrum* next, then *roseum*, and *album* next; then plant a single row of each of the same varieties in regular order, commencing with *cruentum* and ending with *album*, using in this case the small single-eyed yet flowering roots, which need not be planted more than 3 inches apart, with 6 inches between the rows. Presuming an oval or circle to be planted in this manner, the diameter would be 16 feet; and what could be a finer sight than such a bed during the months of August and September!

Having arranged the bulbs according to the taste of the operator, cover them with three inches of soil, and do not press it down, but if the district is a rainy one, cover with a little sand, and then place the soil thereon. The sand prevents too much moisture from coming in immediate contact with the bulbs, and the latter do not rot so soon as if in immediate contact with the decaying fibry compost. If severe weather set in the surface should be covered with 3 inches of litter, which ought to be removed by the end of March. About the end of April or beginning of May the shoots will be up and growing, and just below or level with the surface will be found numerous roots. Now is the time to apply 2 or 3 inches of top-dressing consisting of old mushroom-bed manure, if at hand, or, what is nearly as good, cocoa refuse, which is much neater in appearance; in default of these, a top-dressing of the same compost as that forming the bed must be given. Unless the weather prove very dry no water will be necessary, but if required, it must be given copiously, so as to penetrate down to the roots. Tie up neatly to small stakes any shoots that may need adjusting. In autumn, after the stalks decay, remove



the top-dressing and take off the stalks level with the crown of the roots, which will bring away all the small offsets, as these are found adhering to the base of the flower-stem beneath the soil. This done, cover with 3 inches of prepared compost, the same as that used in making the bed. All the small offsets being removed, only flowering roots will be left, and the bed will be finer in the second year than in the first.

The most suitable times to plant Lilies is in October and November, and February and March, or whilst they are in a dormant state. A fine bed is formed by placing *L. Brownii* in the centre, *L. eximium* next it, and edging with *L. longiflorum*. *L. Catesbæi* makes a bed of lovely orange scarlet. It succeeds well in peat, but there is not a Lily that will not thrive luxuriantly in the compost named for *L. speciosum*.

*L. giganteum*, *japonicum*, *Wallichianum*, and *auratum* have not as yet proved strictly hardy, but there is reason to believe that they will succeed out of doors with slight protection in winter. *L. japonicum* does well with 3 inches of dry leaves or litter placed over it in November and removed in March. Were the large store roots of *L. giganteum* and others of that section planted out in May, there is every probability that they would bloom finely, and might be taken up and potted in autumn and wintered in a cold pit, replanting them in spring. I am not in a position to pronounce them hardy, but am persuaded that they might be successfully grown in many parts of the country with very slight protection. Any information on this point would be useful to many, and to none more so than myself.—G. ABBEY.

### POTATOES.

I VENTURE to send you a few particulars respecting Potatoes, I shall feel obliged if you can return me some practical advice thereon.

I planted Ash-leaved and Alma Kidneys at the same time, in the same field, the seed of both coming from a distance. The Almas were ripe first, and yielded best; they were scarcely touched with disease. The Ash-leaved were diseased perhaps to the amount of 10 per cent.

I planted a Yorkshire Potato called "Cash-in-Hand" at the same time with Flukes. The Cash-in-Hand were diseased to the extent of probably 50 per cent., the Flukes scarcely at all. The Cash-in-Hand I introduced to this land three years ago. The first year it bore well, with very little disease. The seed put in this year was descended from that of 1863, but came last year from other land. The Flukes I had this year from Lancashire. Where the land was manured with stable manure for this year's crop almost all the Potatoes were diseased.—H. W. B.

[We do not discern on what points you need advice, except not to apply decomposing manures to the soil at the time of planting Potatoes. When the Potato murrain was a subject of much research it was shown that such manuring promoted the disease. The early-ripening varieties only should be cultivated. We reject any variety that is not fit for storing by the end of July or early in August; and we take up the tubers as soon as the leaves begin to turn brown. Storing before the tubers have been subjected to the autumnal rains promotes their keeping. They do not improve by being left in the ground so soon as the leaves begin to decay.]

### TEMPERATURE OF THE SEASON.

We have had some extremely hot weather for September. On the 16th I put out two of our ordinary thermometers at 12.5 P.M. to ascertain the heat. The men were complaining that it was hotter than it had been all the summer. I send my notes and times of taking my observations. I do not know that I ever found so great a change in young nursery stock in three weeks in my practice of twenty-five years.

1.45 P.M., thermometer 12 inches from ground, back to sun, 89°; north wall 4 feet from ground, 79°.

3 P.M., 4 feet from ground, same position, 95°; north wall, 82°.

5.30 P.M., ditto, 78°; north wall, 75°.

—Willow Cottage Nursery, Leicester.

DIRECTOR OF KEW GARDENS.—We have very great satisfaction in announcing that Dr. J. D. HOOKER is appointed to succeed his father in the Directorship of the Royal Botanic Gardens, at

Kew. He is not only worthy of the appointment, but had an additional claim to it from latterly having so much assisted his father.

### FUNGUSES ON PASTURE GRASSES.

CAN you inform me what is the matter with the enclosed grass? Several fields in this neighbourhood have within the last two weeks put on this appearance. The whole surface looks of a yellow colour, and the feet are covered with a fine yellow dust while walking over it. Do you consider it injurious to animals? The disease seems principally to attack Ryegrass.—Hayes, Kent.

[The yellow patches so conspicuous on the grass, leaves, and stems, are a fungus, *Uredo rubigo*, or rust. Being in such vast quantities we fear it will be injurious to cattle pastured upon the grass. We would have it all mown and burnt, and the fields then sown with salt, twenty bushels to the acre. The rain which has now arrived will soon bring forward a healthier herbage.]

### CHANNEL ISLANDS ORCHARD-HOUSES.

THE season, on the whole, has been favourable to the production of the year's crop and the ripening of the wood for the ensuing one. Aphides have been incessant in their attacks; and the spider, *rubra cura*, has remained master of the situation in many instances. Grapes have coloured badly. The Peach crop, which was large, was scarcely an average in size, colour, or flavour. Most houses here are lean-to's, and the fruit on the back walls was decidedly finer than on bush trees in pots, as might be expected. Our powers of ventilation and irrigation were often severely tried, especially the former.

I now send a report on the average periods of ripening of fruits in our houses. Of course it is only approximate on the whole, but this is sufficient for our purpose. It is collected from a certain number of houses within this small radius, and is based on data from one to five years old. Nevertheless, if others would do the same as regards the orchard-houses near them, it is easy to see what valuable information would result. These things have as yet been left undone, while they are of such real value that many mistakes annually occur from this cause alone, and much loss of time and money. Let any one try to give hints to another without having previously himself accurately recorded these periods in his note-book, and he will soon discover that he has done his friend an injury. I speak here of the dates of the various fruits ripening, but there are many other matters equally worthy of being written down and not trusted to memory.

The periods of ripening have been reduced to the compass of a week, which is about the average range.

JULY.—The first Peach that has ripened here during five seasons has, as yet, been Early York. It was ripe in certain quantities by the middle of July. It was closely followed by Early Chevreuse, Desse Hative, Early Victoria, Early Silver, Honey, Canary, and Early Grosse Mignonne. These were generally fairly ready during the third week of this month, and gave us an excellent succession. The end of July brought to maturity Doué, Acton Scot, and Golden Purple. These Peaches vary in quality, but are generally good. As mine go to Covent Garden, realising good profits to the dealers, but very little to myself, I am sceptical as to the prices some amateurs say they themselves have netted. However, I can easily say which of the July Peaches are the most to be depended on, and I am building an early-house expressly for this class, which is the most valuable in the London and Paris markets. In the latter case the July Peaches come from Algiers. The Montreuil Peaches come in later.

AUGUST.—We now tread closely on the open wall, and Peaches become comparatively less valuable unless very fine. The first week, however, is still a good test of earliness for orchard-houses anywhere. Early Crawford Peach, Violette Hative Nectarine (in abundance), Rivers' Orange, Downton, and Abec Peach, were generally ripe then. During the second week we had Imperial, Du Telliers, Stanwick, Royal Victoria, Bowden, Roman, and Oldenburg Nectarines, and Stump-the-World Peach. Royal George, Red Magdalen, and Grosse Mignonne Peaches from the open wall, making their appearance on table about this period, were formidable rivals. We do not, therefore, place the house in opposition to the wall just now, except for Nectarines, in the Channel Islands. In these it is always unrivalled, no matter the season.

During the third week of August Princess of Wales Peach, De Sables Nectarine, Bergen's Yellow (an American Peach), and Bragdon Violet ripened. The end of August brought us the Stanwick on early walls, Alexina Chaupin (new), Chanvière Nectarine, Kensington, and Tardive Belle Fleur, a new American variety, all good, but sustaining severe competition with the open wall at the moment.

An account of the September Peaches will be given hereafter. By the end of the month Peaches on the open wall become rare, and the houses resume a marked superiority. One house, growing late Peaches, easily outnumbers the produce of the islands then. This succession is of great value.

During this warm season the Peaches on the open wall have been very numerous, but small. They ripened simultaneously, and became, at those times, a nuisance rather than a pleasure. No Peach which touches the ground is worth eating, and the supply is too great at one period, and waste ensues.—T. C. BRÉHAUT, *Richmond House, Guernsey.*

### WHERE BANANAS, PINE-APPLES, AND ORANGES COME FROM.

THE vessels engaged in collecting and bringing fruit to this port are mostly British bottoms and are not at all regular traders. Some of these peculiar craft are represented to be wreckers from Nassau, Cuba, Windward Islands, &c., and they are large dealers in old junk. Wrecked goods, vessels, cottons, and iron-work are their customary plunder, the supply of which proving short they betake themselves to the fruit-growing districts, and load their vessels with Bananas, Pine Apples, Cocoa-nuts, Oranges, and Lemons. Loaded with a rich cargo of these edibles, the vessels are put for New York, or whatever port seems most desirable, and forthwith their freight is placed in the hands of commission merchants, who see to the disposing of the cargo. A number of American vessels are, however, yearly chartered by the merchants dealing in such commodities, and these latter trade regularly and in an orthodox manner. Payments for fruit at the plantations are generally made in specie, occasionally varied, however, by bartering of goods, when a captain goes out on a speculating tour of his own. In such cases flour, sugar, tea, and New England rum form the leading articles of merchandise—the rum preponderating. Some cotton and ginghams for the natives form a part also.

These vessels trade along the South American coast, touching at Cuban and West Indian ports, including Kingston, Jamaica. Bananas mostly come from Baracoa, Rustan, and Matanzas; Cocoa-nuts from Brazil; Pine Apples from Cuba, Matanzas, and Nassau.

It is astonishing how much waste ensues from the fruit decaying while in transit for this port, whole cargoes sometimes being lost in this manner, and the crew are always engaged, while on the voyage homeward, in culling out the diseased fruit; still sometimes they do not succeed in checking this great drawback to a cheap supply. Each vessel carries from 3000 to 5000 bunches of Bananas, and from 12,000 to 45,000 dozen Pine Apples or Cocoa-nuts on each trip. They frequently bring a few barrels of rare sea shells, half a dozen or so of turtles or terapins, and, in the case of foreign vessels already alluded to, a considerable quantity of junk and old iron constitutes a portion of their cargo. The voyage of a fruit-drogher generally occupies ten or fifteen days, although from Cuba the trips are naturally much shorter.

Box fruit—consisting of Oranges, Lemons, Limes—come mostly from the Island of Sicily, and the vessels are most laden at the ports of Palermo and Messina, and the fruit is conveyed to this port in sailing vessels of the larger class and steam vessels. The Montown Lemons, usually known in trade as "French Lemons," generally begin to come in about the middle of February, and their season ends in the latter part of June or the first of July, sometimes lasting until August, in unusually prosperous seasons. The Malaga Oranges and Lemons come into the market about August and last until January, thus completing the year.

In Cuban fruits the trade is always lively on account of the regularity of the supplies and the ready sale always found for such fruit. Havana Oranges generally make their first appearance in November, and last through the winter until March. Limes also arrive in large quantities from Cuba, and form no inconsiderable part of the trade.

Baracoa Bananas and Cocoa-nuts have their season from

March to July, when the Carthagena fruit assumes full sway. Matanzas Pine Apples last from May through to July, and the Nassau fruit, the Sugar-loaf kind, come in from May until the end of August.

An instructive lesson might be learned regarding the mystery of the cheap fruit constantly hawked about the streets of the city, by a visit to one of the schooners discharging its fragrant cargo. Pine Apples now range from 10 to 16 dols. per hundred, according to the quality and size. But it is easily seen how the Apple-women manage to make a living, when the spectator observes several of these enterprising dealers buy "specks" at 6 and 8 dols. per hundred. A little lower grade is reached by paying 2 dols. per bushel for Pine Apples almost half rotten. Bananas are culled and sold in the same manner.—(*New York Times*).

### THE ROYAL HORTICULTURAL SOCIETY. SEPTEMBER 19TH.

FLORAL COMMITTEE.—The subjects exhibited at this meeting were not numerous. Mr. Turner, Royal Nursery, Slough, sent several beautiful stands of Dahlias, of which Bullion, golden yellow, received a second-class certificate; and similar awards were made to Mr. Rawlings, Bethnal Green, for Sambo, dark crimson, a large well-formed flower; and to Mr. Legge, Edmonton, for Lilac Perfection, small, bright lilac, shaded with crimson, and Golden Emperor, bright yellow, fine form and substance. Fanny Sturt, a very promising Fancy, was again shown by Mr. Pope, Chelsea; and Mr. Eckford, Colehill, showed Lady Mary Wilde, and cut Verbenas. Mr. Shortt, Fulham, sent *Litobrochia tripartita*, which was commended, and a charming *Ionaria*, called Bellii, for which a first-class certificate was given. Mr. Earley, gardener to F. Pryor, Esq., Digswell, contributed a handsome variety of *Polystichum angulare* with large graceful fronds. This received a first-class certificate. Mr. Howard, gardener to J. Brande, Esq., Balham, had a special certificate for two plants of *Dendrobium formosum giganteum*, with large white flowers and an orange throat; *Ionopsis paniculata* and *Cattleya bicolor* also came from the same exhibitor. Mr. Wills, gardener to Sir P. G. Egerton, Bart., Oulton Park, Tarporley, contributed a cut spike of a handsome unnamed *Onocidium*, and a *Cattleya* sent home by Mr. Weir. *Cedronella cana*, with numerous spikes of purplish red flowers, was shown by Mr. Thompson, Ipswich; and *Melia japonica*, with handsome foliage, by Messrs. Lee, of Hammersmith.

FRUIT COMMITTEE.—Mr. Osborn in the chair. Prizes were offered at this meeting for the best dish of Peaches from the open wall; the first was taken by Mr. Whiting, of the Deepdene, with Walburton Admirable, and the second by Mr. Turner, of Slough, with the same variety. For the best dish of Nectarines from the open wall, Mr. Turner was first, with Stanwick. For the best dish of Peaches from the orchard-house, Mr. Westcott, gardener to Mrs. Lett, Dulwich House, obtained the first prize, with Late Admirable, and he was the only competitor. For the best dish of Plums, Mr. Whiting was first with Reine Claude de Bavay, Coe's Golden Drop, and Ickworth Imperatrice, the latter quite shrivelled, and a delicious sweetmeat; and Mr. Earley, of Digswell, was second, with Golden Drop, Imperatrice, and Autumn Gage.

Messrs. Rivers, of Sawbridgeworth, sent a seedling Peach, named Lord Palmerston, of such merit as to receive a first-class certificate. It is of large size, and rather pale colour, having only a little red on the side next the sun, and the flesh is remarkably firm, and richly flavoured. It was raised from a variety obtained from the Pavie de Pomponne, and retains in some measure the character of its grand parent, in being very deeply stained with red at the stone, and having the flesh rather adherent. This will prove one of the best, as it is one of the largest late Peaches. Messrs. Rivers also sent the following:—Plums.—Belle de Septembre, a valuable culinary Plum, its usual time of ripening is towards the end of September. Autumn Compôte, a seedling raised by Mr. Rivers from La Delicieuse. Those sent were smaller than usual. This is also a valuable culinary Plum, ripening a week before the above, and much resembling the Victoria in the habit of the tree, and in bearing abundantly. Cherry.—Belle Agathe, a late sort of Bigarreau. Apples.—The old Golden Pippin, from the orchard-house; the tree has been under glass all the summer; and Reimette Van Mons, from the orchard-house. This is generally very rich when grown under glass.

A seedling Apple and a seedling Plum were exhibited by Jonathan Clarke, Esq., but they did not possess any merit to entitle them to an award. Mr. William Paul sent a large collection of Apples, one sort of each, which attracted considerable attention; and Mr. Turner, of Slough, sent a dish of magnificent Cox's Orange Pippins; Messrs. Osborn & Sons, of Fulham, sent fruit of *Psidium Cattleianum*, the flavour of which was very fine; and Mr. Wills, of Oulton Park, Tarporley, a box of dried crystallised Apricots, equal in every respect to those imported from abroad, and with a much fresher Apricot flavour. The Committee considered them worthy of very high commendation. George F. Wilson, Esq., of Gishurst Cottage, Weybridge, exhibited a basket of extraordinary specimens of Marchal de la Cour Pears, grown in an orchard-house.



Mr. George Curd, gardener to M. G. Thoyts, Esq., Sulhampstead, sent two seedling Melons, one of which was named Georgiana and the other Sulhampstead Hero, but the latter only was ripe. It is a white-fleshed variety, and, though of good flavour, is not remarkable for any great merit. The other is a green-fleshed variety, and, when ripe, will probably be superior to the "Hero."

### PLANTING SEEDLING EVERGREENS IN SUMMER.

I TRANSPLANTED ten thousand Norway Spruce seedlings, two years old, early in August last. The loss from moving was almost imperceptible, apparently not exceeding 1 per cent. On examining them early in October, I found they had formed a mass of new roots. I then planted a quantity of different kinds, but found it too late in the season, as they did not root before winter set in. I covered a part of the Norways when winter approached with leaves, and part with slough hay. They wintered finely, and have made twice the growth made by seedlings from the same bed that were transplanted last April. They have all matured this summer's growth, and I think the experiment complete. The loss in either case amounts to a small fraction; but the growth is decidedly in favour of summer planting.

I have continued my experiments this season, by transplanting, June 14th, fifty of last year's Norway Spruce seedlings; June 19th, five hundred same; June 26th, ten thousand same, and several thousand within the last few days (July 1st to 3rd). This morning, on examining the lot planted June 14th, I find new roots already 1 inch in length, and every one living and doing as well as could be desired. The lot of June 24th had not finished their growth when planted, but were just beginning to show the terminal bud; they have hardened up and stand quite erect.

We planted the above in beds 4 feet wide, with two-foot alleys between; if the ground is dry we water it, cover the surface with half-inch of swamp muck, and plant with a dibble 6 inches apart and 2 inches apart in the rows; water well when planted; no shade, but in a hot dry time a little fresh grass thrown lightly over them, as we did on the ten thousand planted last August, would be advisable.

When I commenced the experiment last summer, I would not have dared to plant them with a dibble at that season of the year, fearing it would bruise the delicate roots, had it not been for an article I saw recommending the planting of evergreens at that season, and pounding the ground over the roots with a rammer.

I put on the mulch to keep the moisture in the ground till the roots take a new start, which I am satisfied is within a very few days, at this hot season of the year.

I shall transplant at intervals till the middle of August, but not later in the season.—ROBT. DEGLASS, *Waukegan, Illinois*.

[We regard this communication of Mr. Douglass's as one of the most important we have ever had the pleasure of laying before our readers. It was at one time supposed that evergreens could not be raised here, and that importation was a necessity. Several of us, among others Mr. Douglass, have learned that they can be as successfully and cheaply raised here as in Europe, and many thousands of dollars will be saved to the country. Now we have the important announcement that we can transplant them at almost any time, which will be a great boon to those who have heretofore supposed that what was to be done had to be finished in a hurry during a few weeks in spring or not at all. With root-grafting in winter, and summer planting, the American nurseryman can find regular employment for his hands all the year round.

Mr. Douglass gives the middle of August as his latest time for planting. In the middle of September we had several thousand *Pinus rigida* and Scotch Pine, raised from seed sown eighteen months previous, and our success was equal to that of Mr. D. Not one of the Scotch Pine failed, and very few of the Pitch Pine, which were very much crowded in the seed-beds. During the coming September we shall risk out thousands of seedlings of last year's raising. Our plan is to put the roots in buckets of water as they are lifted, and they are taken from the water immediately as set in.](—*American Gardener's Monthly*.)

A LITTLE BOTANY REALLY DANGEROUS.—Sydney Smith was once looking at the plants in the hothouse of a young lady who was proud of her flowers, and used, not very accurately, a

profusion of botanical names. "Madam," said he, "have you the *Acarus scabies*?" "No," said she, "I had it last winter, and I gave it to the Archbishop of Canterbury; it came out beautiful in the spring." *Acarus scabies* is the medical name for the insect causing a cutaneous and not aristocratic eruption.

### WHY DO THE GLANDS OF LEAVES PRESERVE THEM FROM MILDEW?

I HAVE waited to see if any one responded to the request of the Editors in a late Number, to give the reason or reasons of Peaches and Nectarines that have glandless leaves being subject to mildew. As I have seen no attempt to do so, I throw out the following for consideration.

What are glands? They are secretory organs, through which secretions pass. A gland is a duct or channel for conveying away fluid or matter separated. It may be asked, what has this to do with preserving leaves from mildew? Everything. In plants that have glandless leaves, the secretions pass through the leaves themselves, instead of being conveyed away by the glands. In certain weather these secretions become viscous. The fungus pitches on these sticky secretions, and bides its time, till development takes place in suitable weather. In rainy weather the stickiness is washed off, and with it the fungus; and hence in such weather plants have an immunity from fungoid diseases, whether the leaves have glands or not. After a heavy rain aphides and fungi alike disappear.—W. F. RADCLIFFE, *Tarrant Rushton, Blandford*.

### OCCUPYING A SMALL MARKET GARDEN.

I AM desirous of living in the country, and wish to have a small house with ground sufficient to grow all my own vegetables, to keep a cow, some pigs, and poultry, the place to be as near the seaside as possible. I will tell you my exact position so that you may be enabled to tell me whether I can live upon my income, where to reside, the utmost rent to be paid, and the quantity of different stock to be purchased for my purpose, together with the quantity of land. I purpose marrying a farmer's daughter. I have an independence of 10s. per week. I have also £60 in cash that I can lay out. I am in a trade that can find work in any place, because every man wears that which I make, but I wish to place that out of the question, as if I obtained work at my trade I should expect to put the money so earned away.—DEVONSHIRE.

[Your letter has been long unanswered from causes that could not be avoided, and now we fear our advice to you must to a certain extent be qualified by the opportunities you have of attaining what is desirable. The most likely way to succeed would be to look out for a plot of land near some small town that is rising into importance, whether as a bathing or fashionable place, or one of trade. If it be without railway accommodation so much the better, as you will suffer less from competition. It is not necessary that the ground be arable, as we would rather prefer a grass field, but let it be good, even if you pay more for it. As your capital is limited we would advise you not to include a cow in the affair, let some one else who can purchase half a dozen go into that business, for the labour where that number is kept is not much more than where there is only one. If you determine to engage in market gardening go into it in earnest, trench and prepare the ground during the coming winter, and plant such crops as come early into use. If you can manage to erect a Cucumber-pit, do so, and it will be of service in many ways, and by all means lay by a good heap of the surface turf for after-use. We would not advise your planting many Apple or Pear trees, or any of the larger fruits which can be carried from a long distance, and are grown elsewhere on a scale with which you have but a poor chance to compete, but plant the smaller fruits which are of most value on the spot where grown, as Strawberries, Raspberries, Gooseberries for the table, and the like. We would also advise you not to plant Potatoes to any great extent, excepting for early use, but all kinds of summer vegetables—as Lettuce, Cauliflower, Kidney Beans, salading of all kinds, and an abundant supply of winter stuff. Such crops are always bringing in money, and you will have some return early in the summer. You will, doubtless, have read in our pages articles bearing on the culture of each vegetable, but you had better buy "How to Farm Two Acres Profitably," as well as other Manuals pub-

lished at our office, which will help you a little. You will do well to unite yourself to a wife likely to aid you by her acquaintance with the household duties of a farm. We urge on you by all means to select really good land, for which if well situated you will likely have to pay £4 or £5 per acre, and about two acres will be sufficient to start with. You may also keep pigs as soon as you have any offal to give them, and if the town be a rising one, make terms as soon as you can with some of the hotel or innkeepers for the manure, and by exercising all the qualifications of industry, perseverance, and carefulness, we doubt not but that your enterprise will, in the end, be crowned with success. The first year, we need hardly say, will be a struggle, and, perhaps, a severe one, but do not be disheartened. "Perseverance must succeed."]

### MY PLANTS,

AND HOW AND WHERE I FOUND THEM.—No. 10.

The choice little Oak Fern, then, was the first piece of good fortune in my Oakmoor discoveries. Leaving my kind guides I strolled about, and at length started walking up the hill which leads from Oakmoor towards the "Wevers." I was prying very closely under the grass whence I saw water trickling down on the right-hand bank, for I had long hoped to come upon the *Hymenophyllum*, and I thought this mossy wet bank a likely place for them. Here, however, I was doomed to disappointment, at least in so far as this genus is concerned; but I came unexpectedly upon a very beautiful Fern, the *Cystopteris fragilis*; one root only I found, and that I took carefully up with plenty of the limestone earth about it, and when we returned planted it in a pot, for it appeared so delicate a plant that I feared to trust it in the rockwork in the garden. It grew most vigorously in our window, and threw up fresh fronds continually. Although I had many Ferns in the window, none I cherished so much as this, and as the fates would have it, none was so roughly handled. No less than three times did our clumsy domestic upset this doomed pot when she fastened the shutters in the evening. Three times there lay my pretty *Cystopteris*, under the fragments of the pot, in the garden beneath the window. Each time, of course, it lost some of its native earth, and we were obliged to fill up with what we had. However, grow it would. Mangled as were its delicate fronds by its falls, it soon sent up fresh ones, and when I consigned it to the care of the Plums and tape man over the way with my pet Oak Fern, it was thriving uncommonly well. Alas! it shared their untimely fate and I never saw it again.

"Oh! ever thus from childhood's hour,  
I've seen my fondest hopes decay;  
I never lov'd a tree or flower,  
But 'twas the first to fade away."

"I never lov'd a dear gazelle,  
To glad me with its soft black eye,  
But when it came to know me well,  
And love me, it was sure to die!"

However, as I said long ago, "*Nil desperandum*" is the motto of mottoes for us all, and I am rather inclined to share in the exuberant spirits of "Chispa," than to "cry over spilt milk." In the midst of his versatile fortune he soliloquises in this way: "Thus I wag through the world, half the time on foot and the other half walking; and always as merry as a thunderstorm in the night; and so we plough along, as the fly said to the ox. Who knows what may happen? Patience, and shuffle the cards! I am not yet so bald that you can see my brains; and, perhaps, after all, I shall some day go to Rome and come back St. Peter. Benedicite!"

But to return. Whilst I was searching the right-hand bank, my husband, whilst looking over the hedge into a field on the left, spied some roots of the Hart's-tongue; they were of the medium size, but not nearly so fresh-looking or luxuriant as those we had gathered in Norfolk, where the fronds instead of being short and stiff, bent in their length and elegance over the grass and plants beneath them. However, as these were the first specimens we had procured in Staffordshire, I gladly welcomed them, and planted the roots in one of my baskets, where they flourished and formed a pretty contrast to the foliage of the lighter Ferns.

Continuing our journey we passed banks of Wild Thyme; and fine plants of *Briza media*, and several varieties of the Hair Grasses, waved with the slightest breath. We noticed particularly one heathy field which was almost covered with the *Aira flexuosa*. A little further on, from an old wall we extracted roots of *Asplenium trichomanes* and *Polystichum aculea-*

tum, variety *lanceoloides*, neither of them in a thriving condition. As a girl, when visiting in Devonshire, I remember well the exuberant growth of the *A. trichomanes*, how it gladdened the interior of the wells and the sides of those high Devon lanes. And where does the king of Ferns, the *Osmunda regalis*, flourish to the extent or height which it does on the banks of the Dart? About the Hohue Chase, near Ashburton, it revels in the full enjoyment of a congenial soil and climate, and of the constant supply of moisture which it receives from the river—that cruel river! if the countryman's legend is to be believed. Thus it runs—"The Dart every year claims a heart." To corroborate a tale she firmly credited, a true-born Devonshire lass, one living upon the banks of the Dart, related to me the following story:—"How that for seven years no one had been drowned in its waters. For seven years the Dart had not claimed a heart; but," she added, "you will see, Miss, it always has them, for if it misses one year it will have two the next! But what I was going to tell you is this—One day our singers were all asked to play and sing at a wedding feast in a village some miles off; my father was asked too, as he is one of our best players, but somehow or other he seemed as if he didn't like to go, we tried to persuade him, but it was of no use. He said he did not seem to like to go. All the rest went. It was agreed that the singers should return in a boat home; by some means or another, how it was I do not know, but they went too much to one side of the boat and it upset. Seven of them were drowned! We waited for the party to return home, but none came, and the next day they brought home the bodies. Oh! it was such a sight to see them, poor things. But you see the Dart must have its heart, and as father said, we might be sure something would soon happen, because it was so many years since any one had been lost." Whilst relating her little narrative the girl's face assumed a reverential expression, and I recollect when she came to the pith of the tale, that seven were drowned, I really, as a girl, began to feel something akin to a touch of awe with regard to this exacting stream. Certainly, I never afterwards saw it without a sort of dread of its cannibal propensities, and I think I should have felt more satisfied, when upon its waters, if I had previously ascertained that its taste had been gratified; so naturally do a country's legends and tales wind themselves about one's heart, that when once listened to it is most difficult to divest oneself of them. Who that has been in Devonshire as a child does not believe in pixies?—those tiny elves who live in those miniature caves, or holes, in the rocky hills, their homes amid the Ferns and Bluebells, where during the day they silently hide; but after a moonlight night the traces of their revels are left in the fairy-rings in the grass. We felt as sure they had danced there as if we had seen them; and let us seek not to disturb their gambols, or the cow may be dry in the morning, or the butter turned sour, the baby may squint, or a thousand misadventures may have happened. All try to keep in favour with the pixies! I believe these little creatures bear a very good name; but I think I have heard that they have revengeful cousins, although just now I forget their proper appellation. I do not wish to insult the "lords of the creation," but I am very much impressed with the idea that these cantankerous little beings were represented to me as of the male gender, and I have an equally strong conviction that the more benevolent and happier fairies were of the female kind.

"Light and free,  
Through the light blue air,  
Where no mortals dare,  
Career we.  
Moonbeams pale illumine our flight,  
As we float, the balmy night,  
'Mid those islands rare,  
Of the cloudland fair."

"Merrily,  
At the day's bright dawn,  
When the stars are gone,  
When the sun is born,  
Career we.  
Mortal eyes no trace can find,  
Of our gambols on the wind,  
Through those isles of gold,  
Of our spirit world."

Instead of writing upon human "lords," I should in papers with this heading, be commenting instead upon "Lords and ladies," but this ill-regulated mind of mine is ever given to wandering, and my thoughts run wild and free, and become either solemn or gay according to the chord which is struck. Talking of "lords of the creation," I am reminded of an anecdote, which has amused me, of this recent election, and



with which, though very unbotanical, I conclude this paper. A gentleman having called at a house to solicit a vote, inquired of the good woman therein, whether "the head of the house

was at home?" "No," she said, "the head is not, but the neck is, and" she added roguishly, "The neck can make the head move whichever way it pleases!"—ALICE.

### HOLLAND HOUSE, THE SEAT OF LADY HOLLAND.

This magnificent Elizabethan mansion, built in the year 1607, is seen among the trees, seated high in the park, and is approached by an avenue of Elm trees from the Great Western road between Kensington and Hammersmith. The nearest similar mansion is Hatfield House, Hertfordshire.

Before the south front is a large square bowling-green terrace, bounded by balustrades adorned with flowers in Maltese vases, and ten large Orange trees in tubs, and in its centre is a large basin-fountain.

To the west of the house is the flower garden, laid out in the old French style, where the flower-plots are looked down upon from an architectural terrace. On the south side of the north boundary-wall is a chain of double diamond-shaped beds, the middle one is planted with Brilliant Geranium, and then duplicates corresponding on each side of *Gazania splendens*, Lord Raglan Verbena, *Calceolaria angustifolia*, and Commander-in-Chief Geranium. The next are diamond-shaped beds, planted respectively with Purple King Verbena, Heliotrope Miss Nightingale, General Simpson Verbena, *Amaranthus melancholicus* ruber; and the other four beds are duplicates of similar plants. Then follow circular chain borders, one at each side of a broad walk, planted similarly with Madame Vaucher Geranium, edged with the Silver-leaved Ivy, Cloth of Gold Geranium and Iresine Herbstii, Mrs. Holford Verbena, *Amaranthus melancholicus* ruber, Princess of Prussia Geranium, Sweet Alyssum, Purple King Verbena, Lady Middleton Geranium, *Coleus Verschaffeltii* edged with *Cineraria maritima*, Sweet Alyssum, Geranium Rubens, Golden Chain Geranium and Purple King Verbena mixed, *Amaranthus melancholicus* ruber, Mrs. Holford Verbena, Cloth of Gold and Iresine Herbstii. Commander-in-Chief Geranium is planted all along at the back of the chain-border near the wall, and Mrs. Lennox Geranium in patches at the angles of the front border, with an edging of *Lobelia speciosa*.

The wall is furnished with fine healthy Peach, Nectarine, and Apricot trees, which here and against other high walls are bearing fine crops. It is rather rare to see wall trees cultivated with the care and judgment that they receive here.

There are eight large beds of choice Roses, and, pegged down as they are, they display their flowers with an even surface to great advantage, and correspond in height with the other beds; two are edged with *Calceolaria Kayii*, two with *Oenothera macrantha*, two with Lord Raglan Verbena, and two with Purple King Verbena.

In the centre is a large oblong figure, divided by gravel walks into six compartments, and surrounded by narrow borders with a circular bed in each, and the other portions of the compartments are filled up with figures of fret and scrollwork in Box. The outside borders are filled with Tom Thumb Geranium, the cross walks with Flower of the Day Geranium. The circle round the dial, and the borders beside the walk running north and south from the dial, are planted with Christine Geranium. The two circles in the largest triangles are planted with Stella Geranium, edged with *Gazania splendens*; these are beautiful beds, more particularly when the sun shines on them; and the four circles in the smaller angles contain *Calceolaria Aurea floribunda*.

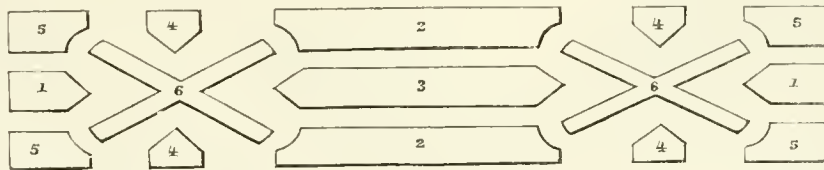
To the south of the above is the accompanying design on gravel. The bank on the north of the conservatory is edged with *Gnaphalium lanatum*, then rows (ribbon style) of the following plants:—Heliotrope Miss Nightingale, Baron Hugel Geranium, Bijou Geranium, Springfield Rival Petunia, *Calceolaria Kayii*, *Calceolaria Prince of Orange*, and *Ageratum*, backed by Zelinda Dahlia.

The next scene is the Lily-pond garden. The circular pond, filled with Water Lilies, is surrounded by four beds on gravel, planted with Punch Geranium in the centre, then a band of *Calceolaria Kayii*, then Tom Thumb Geranium, edged with Mangles's Variegated Geranium; then two oblong beds to the south with Zelinda Dahlia in the centre, Commander-in-Chief next; then *Calceolaria Kayii*, edged with Baron Hugel Geranium. On the west side is an oval in the centre of an oblong grass plot, with four beds like the letter L. The oval has a *Humea elegans* in the centre, Punch Geranium around it, then a band of Flower of the Day, edged with *Lobelia speciosa*. The four beds are planted with two rows of Stella Nosegay Geranium in the centre, two rows of Christine Geranium at each side, edged with Purple King Verbena on the outside, and *Lobelia Paxtoniana* inside. Two circles near the conservatory contain Christine Geranium, and an oblong bed has Stella Geranium in the centre, *Calceolaria Kayii* at each side, and an edging of Tom Thumb Geranium.

A small terrace garden, to the west of the flower garden, is composed at each end of a cross, surrounded by triangular beds, and four triangular beds in the centre, two fancy beds and two square beds at each side, with vases innumerable, both on the balustrades and on the gravel, all planted and gay with dwarf-growing flowering plants. Close to it is an alcove, the favourite seat of the poet Rogers, with noble foxes, the family crest, cut out in Box at each side, an octagon marble fountain being in front, with a white lily jet in the centre.

The conservatory is furnished with some fine specimens of Camellias planted in the border, and large hanging-baskets filled with choice plants suspended from the roof, and in the winter with the large Orange trees that now adorn the square to the south front and the bowling-green terrace. Attached to the conservatory, on the north side, is a banquetting-room of handsome proportions, which is finished and furnished in the best style of art and ornamentation. Close to it, on the east side, is a tower, which is approached by a flight of steps, and from the south side of the conservatory is a colonnade, upwards of 100 yards long, running eastward to the mansion. By this means a communication, under cover, is opened from the house to the conservatory, then to the banquetting-room, then to the loggia or smoking-room, then to the tower, and home by the flower garden, by the pleasure grounds, or by the terrace walk on the top of the colonnade.

In the Melon ground are two vineries, a Peach-house, and planthouse, and several useful pits for Melons, Cucumbers, and for storing plants in winter, all heated by hotwater. The Peach and Nectarine trees have borne a fine crop of fruit this season, and from their healthy appearance promise to do so for many years. Mr. Dixon applies no wash of any sort to his Vines, but merely peels



1. Gaillardia picta.
2. Tropaeolum, Dixon's Seedling, a brilliant scarlet.
3. Madame Vaucher Geranium.
4. Mrs. Holford Verbena.
5. Verbena, Lord Raglan.
6. A dot of Perilla in the centre of the cross, then *Calceolaria angustifolia* edged with Purple King Verbena.

off the loose bark, and to judge from the healthy state of the Vines and the large bunches of Black Hamburg Grapes that still remain uncut, a wash of any sort is unnecessary; besides, as Mr. Dixon observed, when the composition is dry the dusty particles are wafted by the air on to the bunches, which are consequently deteriorated in flavour. Ripe Melons were cut in the end of May, and a pit of seven lights was filled with Cucumber plants (Coxe's), still bearing, and from which, on a rough calculation, no less than forty dozen of good fruit had been cut. In walking through the grounds many pleasing views present themselves through the arches of the colonnade and through those of the Lime-tree walk. In the pleasure grounds are large bunches of Mistletoe growing on Apple trees, and in the Lime-tree walk are some young sprigs of Mistletoe growing out of the trees. The seed

in the berries was rubbed into the cracks in the bark, and left to vegetate. The hint was taken from the action of the mistle thrush, which, in removing the glutinous matter from its bill, has recourse to a branch of a tree, and by that means deposits the seed.

Along the north side of the kitchen garden and orchard is an espalier made of posts and strong wires, the latter 18 inches apart, running through the posts the whole length, on which the fruit trees are trained, also a great variety of ornamental and edible Gourds. Upon inquiry to know the distinguishing features of the edible from the non-edible varieties, I was informed by Mr. Dixon that the yellow and orange were edible, and that the green-skinned were not; also that the colour of the flowers was another criterion by which to judge of their properties, as the species with yellow flowers were edible, and those with white flowers to be rejected for the table, but retained as ornaments to train over arbours, &c., and the fruit when dried to adorn the hall.

On the north of the house the ground rises on all sides to the knoll in the park, this knoll is crowned with a group, a most picturesque group, of Cedars of Lebanon. Other trees creep up the slopes, and form groves around the base and along the valley, not thick groves of gloom, but groves in which the forms of the trees are fully developed, and being planted at various distances apart, they produce glades of pleasing landscape scenery. From this fine swelling knoll a pleasant prospect is obtained of Harrow-on-the-Hill, Kensal Green, Ealing, and the church of St. Stephen's at Shepherd's Bush. The green drive, embosomed in a grove, leads to the open grounds in the park where the Scottish and other fêtes have been celebrated. The different scenes that this estate offers are arranged in a manner so obvious and agreeable, that after examining the parts in succession the mind is very clearly impressed with the beautiful effect of the whole. The grounds are now in a high state of embellishment, and in the most perfect order, under the superintendence of Mr. Dixon, the head gardener.—W. KEANE.

## WELTON PLACE,

### THE RESIDENCE OF MAJOR TREVOR CLARKE.

On a former occasion we not only commented upon many things we found worthy of notice at Welton Place, but gave an engraving of its "wilderness" walk; yet, though that is truly beautiful, and though there are other portions of the grounds which a landscape painter would pause long over admiringly, and though we have again visited the grounds, and hope to repeat our visit often—notwithstanding these testimonies of approval, let no one go there with the expectation of seeing first-class horticulture, splendid flower gardens, geometric beds, ribbon-borders, vineries, peacheries, and so forth. There is at Welton Place nothing of the sort. The grounds are varied in surface, have fine specimens of Conifers, and other trees, and are neatly kept. So far is well, but if there were nothing more we should not have coveted as we do covet, repeated visits. What is the great attraction, then? We will reply fully.

The owner of Welton Place is one of those rare amateur gardeners with ample opportunity, who delights in experimental gardening; but though constantly inquiring after some thing new, it is always after novelty leading to utility. The inquiry, too, is always intelligently and perseveringly pursued. Nor is Major Clarke a man of one object; his predominant one just now is, and for some time has been, the cross-breeding of Cotton-plants; but numerous other experiments are in course of trial, every hothouse and greenhouse, every stone trough, and every corner has its object of interest, and wherever we turned our steps, under glass or in the open grounds, we came in contact with an interesting gardening scrap of some kind.

Of Major Clarke's researches and experiments on the Cotton-plant we need not expatiate, for he has lectured fully upon the subject before the Royal Horticultural Society. In the garden at Welton Place you see in every house abundant evidence that his opinions and statements are well sustained by actual research. There are growing specimens of various species, and still more of varieties and cross-breeds. Hitherto he has been unsuccessful in crossing the species of the western with those of the eastern hemispheres; but if there be any species of *Gossypium* a native of both, and we think there is, that might serve as a go-between.

Memory must be allowed to be desultory, and it first brings

for record the Major's experiments on disbudding Conifers. He removed all the lateral buds as often as produced from the stem of a Scotch Fir, and of another species, the name of which we forget. The Scotch Fir is 20 feet high; and the lower 10 or 12 feet, never having been allowed to produce a branch, are consequently without a knot, and the importance of this when the trunk of a Conifer comes to the sawyer, needs no enforcement.

Tender Conifers, such as *Arancaria*, *Cryptomeria*, and *Taxodium*, are usually considered least liable to injury by frost when on dry and elevated soil; but at Welton Place, those in the hollows near the water suffer the least. There the *Taxodium distichum*, or *Deciduous Yew*, thrives well, and leads us to remark that it is usually planted erroneously on dry ground, for it is a native of boggy localities.

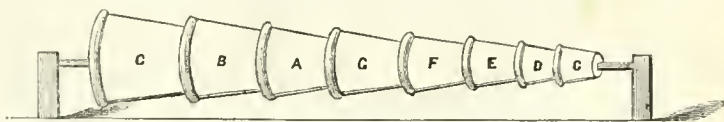
Some pods in our pouch remind us that the new scarlet Sweet Pea among other novelties has been here tested, and the verdict is, "It is really a good thing," and the beauty of some successional blossoms justifies us in saying we consider the verdict in accordance with the evidence.

We noticed the geothermal garden when recording our former visit. It is still maintained. During the last winter a fine was employed to impart heat to the soil, but Major Clarke found it less effective than hot-water pipes, and purposes recurring to these. We have heard it objected that many of the plants would be destroyed if the earth were heated sufficiently to prevent the air above being fatally cold. Experience shows this objection to be groundless. Besides, in nature observation has taught that the roots of plants will be uninjured in earth heated nearly to the boiling point of water. Thus, Mr. Forster, the naturalist, who was with Captain Cook in one of his circumnavigations, found the soil near a volcano, in the island of Tanna, raised the mercury in a Fahrenheit's thermometer to 210°, yet the surface of that soil was covered with flowers.

The Melocacti and tropical Aloes flourish strikingly in the geothermal-bed, but in the winter the Cacti are placed for safety in some attic, and the Aloes are put under double-glazed frames, which are found to afford them sufficient protection from our winter frosts. A *Cycas* remains in the bed throughout the year. The fronds are cut down by the frosts, but fresh fronds are produced in the spring.

The bees, Ligurian and common, were superlatively active and vigorous. No wonder, for great attention has been paid to testing which flowers yield the most honey, and to having abundance of those flowers in the vicinity of the hives. The prime favourite of the bees is *Nepeta Mussinii*. It has an un-failing succession of blooms from the end of May until the winter arrives. It will grow anywhere. Next held in preference by the bees is *Reseda Phyteuma*. It is not sweet-scented, but is the constant resort of the bees whilst it is in flower. Major Clarke found it wild in Italy. He is sedulously on the look-out for the useful and authentic, even to the being certain as to the nature of the bog-earth of the West Indies; so he had some sent to Welton, and various shrubs have sprung up in it that are not yet identified.

A common complaint is made that the tenants of a marine aquarium will not long survive in its confinement, but by judicious care some of the Sea Anemones in that at Welton have been maintained for ten years.



We presume that Major Clarke, agreeing with Addison, that "music can noble hints impart," and that "there's music in all things," has made even his flower-pots musical. They are fixed firmly within each other, but their sides not touching, on a bar of wood passed through the centre drainage-hole of each. They are the common flower-pots, rather thinner than usual, increasing gradually in size to produce the bass notes, and each inscribed with a letter indicating the note it produces. They are played upon by being struck with muffled sticks.

## SALVIA SPLENDENS MANAGEMENT.

This plant makes a brilliant ornament for the conservatory during the winter months if grown well.

To propagate it, take off cuttings in January, and insert



them in sandy soil, plunging the pot or pan in a gentle bottom heat. They will root freely in a fortnight; then pot them off singly in small pots, after which shift them accordingly as they require more room, but never allow them to become pot-bound.

The compost which I find suits them best is formed of three parts rich yellow loam and one part of equal quantities of leaf mould and well-rotted dung; adding a small quantity of charcoal and silver sand.

Keep the plants in a greenhouse, with a moist atmosphere when the weather is very hot. By the first week in June they will have become good plants, and should be in 10 or 12-inch pots. Then turn them out of their pots, and plant them out of doors in a sheltered situation in some good rich loam. When they show bloom stop them, and they will throw out some healthy shoots, and by the end of September they will have made noble specimens; then take them up, and pot them in No. 2-sized pots, giving them the same compost as before. Great care should be taken in lifting them. Water them well two or three days before the operation, then take the plants up with large balls, and carefully reduce each ball until it fits the pot. Pot them firmly, tie them out, and remove them into a cool moist pit, keeping them rather close for a few days. By so doing they will not lose any of their foliage. By the end of October they will have a mass of flowers, and will continue blooming until February.—W. B.

### ESPERIONE AND MUSCADINE GRAPE WINES.

It was not our "chaplain," but another genial Wiltshire rector, well known to him, who called upon us last week. We conversed over the productions of the garden, both growing and harvested, and finished off with some samples of my Grape Vines. They were remembered by him of old, and now he has a garden, a Vine, and Grapes of his own. I inquired, "Did he make wine?" "No, he should like to do so, but supposed my practice was a secret." I assured him that I never could keep secrets; my greatest happiness was to impart to others all that I knew which could benefit them. I told him that even before he became curate of Woodstock I had published in THE COTTAGE GARDENER the knowledge I possessed about Vine culture and wine-making; that in consequence of this being a beautiful Grape season I was then engaged in arranging some notes, preliminary to writing a seasonable paper on the subject, giving an account of my progress; and that as he now reads "our Journal" he would there find the desired information. He said, "Give the minute particulars of the operation, for you practical people, who write with a full knowledge of a subject, are apt to leave out the minor details, through a conception that others would arrive at these as a matter of course, whereas it may not be so. It is just those statements which people not versed in a subject want. The result is interesting enough to read; but often, the "how to do it" not being sufficiently specified, there is not sufficient inducement for those who are not grounded in the matter to undertake it." As I am self-educated in every phase of my knowledge, by no one more than by myself could the remark be better appreciated. How much time, right down hard head work, and mental exhaustion have the omissions of small explanations cost me? However, I trust that in what I am now about to write I shall go so far into particulars as to meet the ideas of all persons who may feel interested in the subject.

I have made no alteration in the system of groundwork and in the training of my out-door Vines from that given in the year 1856, further than in lieu of 12 feet in height they are now verging upon 30 feet; and as my chief object now is fruit for the vat, I do not resort to slicing away what I considered superfluous buds, or to thinning out the berries. I reserve such attentions for house culture. As regards my practice in wine-making, although much that I wrote in 1860 must be repeated now, it will, nevertheless, be so blended with what I consider improvements as to render it, I hope, worth perusal by old as well as new readers. In fact, the repetition of old matter cannot be avoided, so necessary is it for the comprehension of the new; and I am sure from experience that this dovetailing of individual practice with progress from time to time tends to keep a subject alive, and to diffuse knowledge, however familiar and common the subject may be.

On account of the quantity of Grapes that the Vines now annually produce I have instituted a screw wine-press, which facilitates my operations greatly; but as nine people out of

ten may not possess so desirable an article, I will point out the homely contrivances that can be made use of. They are to be found in most places, and should undergo a scrupulous cleansing before they are used for wine-making. They are a garden basket, the weight of which is known, in which to place the Grapes when gathered; scales to weigh these; a washing-bench; two large, brown, glazed earthenware pans (I formerly used washing-tubs, but I have discarded these wooden utensils because they absorbed the juice and saccharine matter), holding about fourteen gallons each; casks of capacity according to the requirement, say from five to nine gallons each; two two-gallon stone bottles, and two of one gallon each; a spouted jug measuring two quarts; a two-gallon tin can with a spout to it; a tin pint measure; a galvanised iron lading-bowl; three large, brown, earthenware, glazed milk-pans, borrowed from the bee-hives, which they serve to shelter; one large stone mortar and a mahogany pestle; a tin funnel, a colander, two large wooden spoons, a mallet, gimlet, a pair of pincers, and a pair of cutting-pliers; lugs, vent-pegs, and taps of sizes; a stout piece of canvas; two stout squared stakes each about 5 feet in length; trams and wedges to stand and secure the casks upon, and a saccharometer.

The names of my Grapes in the open air are, the Royal Muscadine (white) and Esperione (black). The former ripens two or three weeks before the latter, and about the last week in October is the time that I usually make my vintage of the Esperione. This year the Grapes will be quite ready to gather by the middle of the month, and, by their present appearance, I shall be operating upon the Muscadines whilst this paper is being put in type. Directly after the Grapes are gathered and weighed they should be picked from their stalks into one of the large pans; and the pestle and mortar being deposited on the washing-bench, having the fruit on one side and an empty pan on the other, bowl after bowl of Grapes should be crushed in the mortar; not by a vertical jam, but by working the pestle with a light circular horizontal motion, using sufficient force only to macerate the skins and pulp without smashing the pips, for in the latter case they would impart an unpleasant roughness to the wine. The pulp is emptied from the mortar with the lading bowl into the pan, and so on until the bruising process is completed. When a pestle and mortar cannot be had, the Grapes can be hand-crushed in the colander, made to rest over the pan upon the two squared stakes. Now strain about a pint of the juice from the must, and prove it by the saccharometer, which is done by nearly filling the tin tube that belongs to it and immersing the glass instrument therein, when the specific gravity of the juice is read on the index plate, and the stated degree should be noted down. On the supposition that ten gallons of wine are to be made, 80 lbs. of Grapes, exclusive of their stalks, will be a good proportion to make use of, and we shall conclude that this is the weight of the now-called "must" in the pan before us. Toss two gallons of clean cold water into it, and stir it about well with a large wooden spoon, or something to answer the purpose. Strain off a pint of the watered juice, and make a note of the specific gravity as before. Place the two squared stakes across the pan, and cover it over with a piece of druggat, or something of the sort, to exclude the air and preserve a temperature of about 60°. The must will now gain daily in sweetness, and should be well stirred, and proved daily with the saccharometer, until it is seen that the sweetness begins to diminish, and then no time must be lost in straining off, as the skins of the Grapes would deteriorate the juice by remaining longer with it. The wine-press now comes into action. To fit into the straining-box I use a bag made of strong cheese-cloth, into which, by raising its open end, is ladled about a gallon of the must to be pressed, and the "cheese" of compressed skins and pips is emptied into a milk-pan, and so on consecutively. Before I used a press I carried out this process as follows:—An empty pan was placed beneath the squared stakes, or a short ladder, and resting upon them or it the colander, into which the must was ladled by degrees; the juice was then well pressed by the hands from the skins and pips into the pan below, and the refuse tossed into a milk-pan, and so on until the muscles of one's arms became rigid. The strained-off juice is now measured with the tin can, and, in every probability, it will be found to have run eight gallons, then one gallon and a half of clean water will be sufficient to pour over the skins and pips in the milk-pan, and if this water can be heated to a temperature of not more than 80° so much the better. Let it be well stirred amongst the skins and pips to express what virtue remains in them; then strain it off and add it with the



juice in the working-pan, and the united quantity should slightly exceed ten gallons.

We are now arrived at the sweetening, and here I will insert a table of the specific gravity of the pure juice of my Grapes used for wine-making during six consecutive years.

	Saccharometer.		Saccharometer
1858, Esperione.....	21°	Muscadines.....	25°
1859, do.....	20°	do.....	22°
1860, July 4th vines in blossom, came to nothing.			
1861, Esperione.....	15°	Muscadines.....	17½°
1862, do.....	17°	do.....	20°
1863, do.....	19°	do.....	21½°
1864, do.....	20°	do.....	22°

I may mention here that I never add a drop of raw spirits to my wines of any description. I have never had any cause to regret not having used spirits, and I have samples by me of all the wines that I ever made to prove that the addition of spirits is not necessary for their keeping. All the alcohol which they gain artificially is from the sugar, which is always more or less necessary for British wines on account of the smaller amount of sun-heat which the Grapes receive as compared with those produced in foreign countries, and even there, in some parts, a great deal of sugar is added to the Grape-juice. I believe I use more sugar in my practice than what many of our best wine-makers recommend. I have tried less quantities, and I have always found that I was eventually obliged, in order to give body, to add an amount of sugar more than equal to what I should have used in the first instance, for the wines would so attenuate themselves in the cask that if I had not kept adding dissolved loaf-sugar to keep up the gravity they would have been miserably thin, or possibly acetous fermentation would have set in, and then vinegar would have been the result. I find, besides, that it is never satisfactory to have to apply much sugar to keep up a standard of sweetness in wine after the liquor has fermented and been fined off. In short, if the wines have not a sufficiency of sugar added to them in the first instance they cannot be sweetened properly afterwards. If, on the other hand, they have been too much sweetened at first, a cloudy appearance and a mawkish taste, and pricking upon the palate, will be the consequences, and these evils cannot then be remedied. The above causes are those which have tended so much to bring our English wines into bad repute.

I think that I cannot do better now than give a digest of the manner in which I operated last, as being my best practice up to the present time. I must, however, make the preliminary remark that I last year used super-honey from my bee-hives for my Esperione wine, and with very evident improvement, and that for the future I intend to adopt it for all my wines as an assistant sweetening in the proportion of 3 lbs. to every ten gallons of wine. The mode of preparation which I adopt is to place 3 lbs. of honey and 3 lbs. of water in a stew-pan over a bright fire, gently simmer for twenty minutes, skim off the scum as it rises, and allow the liquid to become cool; it is then ready to add along with the sugar to the Grape-juice. I have a fine sample of honey this year for the purpose, and a magnificent crop of Grapes. I have been obliged to securely net over 700 superficial feet of the walls of this house to protect them from the sparrows, blackbirds, and bantams.

#### 1864.—DIGEST.

To make nine gallons of Esperione wine. Take 90 lbs. of Grapes. October 27th gathered Grapes. Weight when picked from the stalks 81 lbs. Roberts's saccharometer floated in pure juice at 20°; added two gallons of clean cold water to the must, saccharometer then indicated 12½°. October 28th, saccharometer 14°; 29th, same as yesterday; 20th, ditto; 31st, saccharometer 12°. Pressed off juice, ran 7½ gallons, saccharometer then floated at 11°; added 1½ gallon of water at 80° by the thermometer, to the skins and pips, well stirred them about in it, and pressed off, saccharometer in the washings indicated 3½°; put it with the premier juice, and the united quantity measured 10½ gallons, saccharometer nearly 11°, allowed 2½ lbs. of loaf sugar per gallon, or 28 lbs. in all, along with the 3 lbs. of prepared honey, stirred every half hour or so till the sugar became dissolved, and the saccharometer then slightly exceeded 44°, covered over; atmosphere 60°. November 1st, saccharometer same as yesterday; 2nd, audibly fermenting, saccharometer 41½°; 3rd, saccharometer 40°; 4th, saccharometer 37°; 5th, saccharometer 34°; 7th, saccharometer 27°. Carried liquor from the working-pan in the kitchen down into the cellar, to a temperature of about 55°, and filled a nine-gallon cask, along with a gallon stone bottle, allowing the surplus to remain in a spouted jug for the purpose of filling up during

the working in the cask, whence the scum is ejected into a pan or large dish beneath the barrel, the latter having been placed on the stand so that the bung-hole might lean a little to one side. When the colander was used to pass the must through by force of hand, a greater quantity than I thought advisable of the pulp of the Grapes passed along with the juice into the working-pan, which is not now the case with the wine-press, so instead of entering the wine at once into the barrel from the working-pan, I used to pass it through cheese-cloth formed into the shape of jelly-bags. Four or six of these were tacked on so as to be suspended between the spokes of a short ladder, which was laid upon the backs of two chairs close to the working-pan, and a couple of milk-pans were placed beneath, in which the liquor filtering from the bags was caught, and the cask was filled with the strained wine as quickly as its running off allowed. November 8th, saccharometer 23° at bung-hole; 11th, saccharometer 17°; 13th, saccharometer 7½°; 14th, saccharometer 5°. Racked off the wine, sulphured the barrel, brought up the specific gravity to 7½° with dissolved loaf-sugar (because I wished the wine to maintain sweetness to please the palates here), and used finings. January 16th, wine attenuated again to 5°. Racked, sulphured, but omitted finings, as the wine had become clear. March 12th, fermentation quite completed, saccharometer 4°. A beautiful rich red wine, with a distinct bouquet, and a port wine flavour. Placed a clean square piece of canvass over the bung-hole, and smote the bung securely down, left the vent open a week, and then firmed the peg there also. I propose to keep this wine in the wood three years.

For a dry wine (claret) I should have allowed the above liquor to remain at 5°, as at its first racking off, and neither sulphured nor used finings until it had been attenuated down to W°—viz., water-float, when the sweetness is exhausted. On the other hand, if my object had been to secure a sweet effervescing champagne, I would have fined off the wine as quickly as possible, after its attenuation to 9° in the working, and bottled it off at a specific gravity of 7°, not later than the first rising of the sap, in the first quarter of March following its manufacture. Thus, when champagne is the aim, and attenuation begins to count under 9°, immediately rack off, sulphur, and apply finings. To do this place one of the large pans (I use a rather large sponge-bath) in front of the barrel, and draw out the tasting-peg, which should be placed not quite 2 inches above the tap-cork-hole, and when the wine begins to run slowly, quietly tilt the cask until thick sediment appears. Lower and run off the latter from the bung-hole into a pan, to allow it to settle down. Never use water to rinse out casks when the wine is to be returned into them. Some of the liquor worked in the gallon bottle can be used for that purpose, and the remainder to take the place of the sediment cast out of the barrel, so here we arrive at the utility of making the extra gallon. Proceed by rinsing the sediment clear from the inside of the cask, cleanse the outside with water and flannel, and replace the peg in front. Now reverse the cask on its stand, or by some means, so as to be able to gain convenient communication with the bung-hole now on the under side. Place about half an ounce of flowers of sulphur on the end of an old iron spoon, set light to the sulphur with the flame of a candle, and allow the fumes to pass through the bung-hole into the barrel. Replace the cask properly on its stand, re-enter the wine immediately, leaving space for rather more than a quart, for the purpose of adding the finings. These should be all ready prepared by having three days previously immersed a quarter of an ounce of isinglass in a pint of clear wine, stirring the liquid occasionally. The isinglass at the end of that time will be found to be quite dissolved; add a pint more wine to it, and mix well, then quietly pour it in at the bung-hole from a spouted jug with one hand, whilst with the other keep gently stirring to half-way down the barrel with a piece of lath. Make sure that the cask is full, put in the bung slightly, but leave out the vent-peg, and in all probability fermentation will now nearly if not quite cease. As soon as it has settled run off what clear liquid remains upon the sediment in the pan, enter it into the gallon stone bottle, or into the cask, if it is required there, and cast the residuum on to the manure-heap.—UPWARDS AND ONWARDS.

(To be continued.)

#### WORK FOR THE WEEK.

##### KITCHEN GARDEN.

As the summer crops are removed, manure and dig or trench the ground before the autumnal rains set in; in stiff soils this



is of the greatest importance. Weeds at this season are very troublesome if any have been allowed to drop their seeds during the summer. The autumn-sown crops, such as Carrots, Onions, Spinach, &c., must be kept clear of weeds, otherwise these will soon overrun them. Remove or dig in all decayed leaves and litter. *Cabbage*, continue to plant out the main crops as recommended last week; keep the late seed-beds free from weeds. *Carrots*, slightly thin the autumn sowing, and keep them free from weeds; as soon as the main crops are full grown they should be taken up. *Cucumbers*, plants cultivated in a forcing-house must have every attention paid them; much of their future success will depend on their growth at this time, while the sun has some power and influence on vegetation. Keep the main shoots tied to the trellis, and when they reach the top of the house stop them, but not before; slightly sprinkle the plants every fine day with a fine rose on the syringe. If green fly make its appearance, smoke the house with tobacco. *Lettuce*, plant some of the *Cabbage* kinds for winter use in frames as these become unoccupied; the soil in which they are planted should be very light. Give but little air till the plants begin to grow. Prick out on a sheltered border some of the *Cos* kinds previous to planting them where they are to remain through the winter. *Onions*, slightly thin the autumn sowing when they are a few inches high. Immediately the main summer crops have done growing pull them up, and house them when dry. *Parsley*, cut down a portion of the spring sowing so that it may push again before winter. Pot some good roots to put in a forcing-house for furnishing a supply during severe weather.

#### FRUIT GARDEN.

Apples and Pears that have been gathered within the last fortnight should now be looked over very carefully, when it will be found that those that were bruised, or in any way injured, have begun to decay, and unless removed will infect the others. Filberts are now ripe in most situations, and should be gathered. They keep well packed firmly in a moderate-sized hamper. In this way they do not suffer from excess of moisture, and the kernels keep plump and sweet till May or June. It will be of benefit to Peach trees to go over them and cut out those shoots which have borne fruit, but have not a terminal wood shoot; those remaining will be benefited by the clearance, as they cannot be too far apart at this season. It is now time to think of making preparations for filling up vacancies on the walls with young trees, and, perhaps, in some cases, judicious transplanting may be considered advisable. In either case, the sites must be properly prepared with fresh maiden loam; if the borders have been properly constructed with regard to drainage, and without this no good results can be expected, but little preparation beyond removing a considerable portion of the old soil and supplying its place with new, will be required.

#### FLOWER GARDEN.

The principal work in this department will now be confined to mowing and cleaning, and if neatness is to be maintained this will require constant attention; also see to thoroughly clearing off weeds and moss from gravel walks, and roll frequently when wet to keep the surface level and smooth. Cuttings of Laurels, Privet, Box, Aucubas, and various other evergreens, may now be put in, and the layering of others which do not strike readily from cuttings proceeded with.

#### CONSERVATORY AND GREENHOUSE.

The conservatory will still be kept gay by fresh introductions of plants in bloom, and the removal of such as begin to decay. It will, however, not be desirable to overcrowd the house at this season, as the permanent inmates will require to have all the light and air possible, in order to ripen their wood. The climbing plants in these and other houses should likewise have a weekly regulation, shortening back the shoots going out of bloom, and training the remainder in a suitable manner to show a free natural habit. Climbing plants in pots, as *Kennedya*, *Hardenbergias*, &c., should likewise be neatly tied to thin trellises, and exposed to a good share of light. The borders in the conservatory will require less water, and the supply should be still further reduced as the days shorten, making a difference, however, with strong-rooting plants, which will require larger quantities than others. The buds of *Camellias*, where too thick, should be thinned out according to the strength of the plant; water such as have not been recently potted with clear soft water, which will help them to perfect good-sized flowers. A portion of the stock of *Chrysanthemums* should be placed under glass to forward them; thin out the bloom-buds, and water with liquid manure. In arranging *Pelargoniums* for the

winter allow them the lightest and warmest end of the house, unless there is a separate house for them, when the Fancies should have the best end. Keep them close to the glass, and do not allow them to touch each other; those cut back late may yet be shaken from their old soil and repotted, placing them in a slight bottom-heat afterwards, to facilitate their quick rooting. Let the greatest cleanliness be preserved in every house. The pots should be frequently washed on the outside, and moss prevented from growing. Make it a rule to clean out the conservatory after the morning's watering, that it may become dry early in the afternoon. Specimen plants should be frequently turned round to prevent their becoming one-sided. In cases where there are many stove plants in the conservatory, it will be necessary, in the event of the weather becoming cold and wet, to use a little fire heat, but be as sparing of this as circumstances will allow, particularly if there are any other things in the house likely to be injured by being kept too warm. In this case it will be advisable to dispense with stove plants, even at the expense of rendering the house somewhat bare of flowers, rather than keep them there and run the risk of injuring other plants on their account. Be careful not to overwater plants brought from the stove, and also to use water at a temperature of 70° or 80° for these, as using cold water to plants that have just been brought from a warm house injures the young and tender roots, shortens the duration of the blossoms, and often ruins the plant. Use weak liquid manure for *Salvia splendens*, and *Gesnera-flora*, so as to preserve the plants in a vigorous state, and keep them blooming as long as possible.

#### FLOWER FORCING.

Those who intend to provide a rich display very early in the spring should now be in the market, and select plants adapted for the purpose, and of a superior character as to amount of flower-buds, and form of the plant. Such are the various *Rhododendrons*, *Azaleas*, of the nudiflora class, with various hybrids; the *Rhodora canadensis*; *Ledum latifolium*, and *thymifolium*; *Kalmia latifolia*, *angustifolia*, and *glauca*; *Andromeda pulverulenta*; the *Daphnes*, especially *cneorum*, and even the old *Polygala chamaebuxus*. These, with more of the same tribes, although not of very recent introduction, will be found to add greatly to the spring display, and also to the diffusion of a most gratifying fragrance. Such should be obtained forthwith, potted in smallish pots, and plunged in a warm corner in the garden, whence they may be successively introduced to the forcing-house, from the middle of November until February.—W. KEANE.

#### DOINGS OF THE LAST WEEK.

AFTER three weeks of scorching weather, we had on Thursday a fine mild rain that will do vast good in this neighbourhood, and will affect nothing injuriously except the brilliant appearance of the flower-beds. The heavy rains in August made these beds very dismal, but they soon regained their former beauty, and would have been brighter than in the end of July and the beginning of August but for the faded blooms that required to be picked off, as a few of these in a bed detract from the interest of the whole. Some *Geraniums* very considerably drop their faded petals, and therefore do not injure the appearance of others in the truss; others bloom first in the centre and decay there first, and these blooms must be nipped out if the others are to appear to the best advantage, and, where there is much ground to go over, the labour of doing this is immense. The high keeping of flower-beds is everything as respects the pleasure to be derived from them, and one bed in the highest order, never showing a faded leaf, a faded flower, nor a plant suffering from drought, will produce more pleasure than a dozen or a hundred of beds whose appearance testifies that the extent and quantity are beyond the labour power at command. The smallest garden, if well kept, will never convey the idea of limited resources; but the largest garden, if rough and untended, will ever conjure up the idea of poverty of means. We write feelingly, for to keep the flower-beds and pleasure-grounds at all up to the mark during the last three weeks involved neglecting other departments to some extent. One of the most troublesome of *Geraniums* has been that fine free bloomer the *Trentham Rose*, but which, unfortunately, blooms and seeds first at the bottom of the truss, and will often show a dozen of staring seed-pods, whilst many blooms remain open and opening in the centre. In such sunny weather in the autumn this is peculiarly the case with this fine old variety. The other plants that baffled us most

were Dahlias, tall and dwarf, which flowered about half their usual size, and began to decay prematurely from want of water at the root, which we could not find time to give them. Borders of a superior kind of Purple Spinach, which looked very nice before the drought, are now becoming weedy and seedy-looking. Borders of old favourites of ours, Love-lies-bleeding and Prince's Feather, began also to show the effects of the heat though very strong healthy plants, and we hope the rains of Thursday will revive them again sufficiently for a month longer. As yet, and with little or no watering, the Verbenas have stood well. With us the best double-flowered Feverfew seldom does much after such dry and scorching weather, and yet we are told it stands all the sun round London uninjured. It should be known, however, what amount of water it receives in such circumstances, as a gardener in the country, with little water except what the clouds give him, can hardly expect to grow it so well as they do in places where a hose can be fitted to a tap and the ground be flooded all round the plants.

#### KITCHEN GARDEN.

Very much a repetition of former weeks. Now that rain has come will turn out some more greens, planting them thickly; they may come in useful in spring, when the forward crops are getting exhausted. The extreme heat will cause Peas to give over bearing sooner than usual. The weather just suited Dwarf Kidney Beans, which bore immensely, and the rains will greatly help Scarlet Runners, the heat being rather too much for the free setting of the blossom. Gathered Tomatoes, and thinned the leaves of the remainder, so as to give the fruit all the air and light possible. Sowed Kidney Beans in pots out of doors, to be moved under protection as the nights become cold. Cleaned Mushroom-beds by sweeping with a hair broom, so as to leave the surface smooth and firm, which prevents the spawn running into anything loose, instead of throwing up Mushrooms. A slight sprinkling of litter or rough hay on the surface keeps beds out of doors, or under open sheds, more uniform in heat and moisture. Examined fresh-planted Cabbages for grubs. Gave manure water before the rain to Cauliflowers coming on, and picked over a lot of stable litter, shaking all the dung out of it, and as it was very dry, built it in a stack, which will be useful for protecting in winter. Had the shortest mixed up with short grass, leaves, weeds, sweepings, &c., which will be a nice heap to go to when we wish to have a little heat thrown into a bed for various purposes. Scattered ashes and lime over young Lettuces, Radishes, &c. The dryness of the ground, and little soft fruit left exposed, have saved us from so many birds, as have invaded some other gardens. Some accounts speak of scarcely an Apple or a Pear being left unpecked, and when once pecked, of course they are only fit for present use. Even hard Peas may do for roasting. Perhaps even in such cases there may be a spice of exaggeration against the poor birds. We recollect of an old man, and a truthful man in other respects, who never spoke of marauders and vermin, except as millions of them, and tens of millions. He evidently had picked up the big word without having the slightest idea as to the numbers involved. For ourselves, though not untouched, the birds have been very considerate on the whole; but whether from gratitude for keeping the gun quiet, time alone will tell.

#### FRUIT GARDEN.

Much the same as last. Gave a little fire to Fig-house after the rain, to help the latest fruit. It was hot enough for anything before without any fire heat, and we always think sun-heat is the cheapest and the best. Gathered the most of the earlier fruit before the rains came. Removed all weeds and runners from Strawberry plants in pots, and gave them a little more room, so that the sun may play on them more fully. The rain that comes will not be likely to injure them this month, but if much come dusting over the surface of the pot with soot or superphosphate of lime will do the plants good, and the strength will be gradually washed among the roots. As much as can be held between the thumb and two fingers will be enough of soot for a six-inch pot, and as much as can be held between the thumb and finger will be enough of superphosphate at one time for a similar-sized pot.

#### ORNAMENTAL DEPARTMENT.

Our work here has chiefly been devoted to the following matters: Picking, cleaning, and regulating flower-beds. The rains and the subsequent heat have changed some of our first arrangements, and it is now too late to make everything square

as it was at first, as some lines and rows will be found to have filled double the space they were intended to do—a very fortunate thing when a more tender row has so far given way that we are rather glad when its neighbour fills up its place. We are always learning by reverses as well as successes. We think we mentioned how very fine a row of Golden Chain was with us in a ribbon border. It was the third line from the grass verge. The border is planted thus:—*Cerastium*, *Lobelia* *Conspicua*, *Golden Chain*, *Purple King Verbenas*, *Centaurea candidissima*, *Brilliant Geranium*, *Aurantia* *multidora* *Calceolaria*, *Stella Geranium*, and tall *Ageratum* for the centre. This border pleased us very much until the rains of August, which encouraged the Verbenas to grow very strong, so as slightly to overhang the Golden Chain. We think ourselves that the water thrown by the winds from the flowers of the *Lobelia* poisoned the *Geraniums*, as afterwards the fine large beautiful leaves began to drop off, so that now they scarcely form a feature in the border. In other places, where *Golden Chain* and *Cloth of Gold* are freely exposed, but still slightly protected by shade, the leaves are all that could be wished. On the opposite border *Cloth of Gold* was substituted for *Golden Chain*, and *Paxtoniana Lobelia* for *Conspicua*. Part of this border is shaded by a fine tree, and where this shade extends the *Lobelia* and the *Cloth of Gold* are all that can be desired; but where fully exposed to the sun, both are showing signs of giving way. Seedlings of *Lobelia speciosa* have stood the dry weather well without watering, whilst cuttings have suffered considerably. The little dwarf single *Marigold* alluded to the other week, seems to care little either for moisture or dryness. It has been and is a dense mass of mottled orange, and besides planting, it has received no other attention and no water from the pail in the hottest weather. Has any one noticed the result above alluded to with regard to the *Golden Chain* and the *Purple Verbenas*? One condition unfavourable to the *Golden Chain* was its being planted along the north side of a ridged border, that faced the south and the north. Had we suspected the result we certainly would have docked in the Verbenas, so that it should not in the least have overhung the *Geraniums*. We have long noticed, that when the faded petals of some *Scarlet Geraniums* are deluged by rains, the liquid falling from them will decay not only other petals, but the leaves on which it rests. We have frequently noticed leaves all green to-day all mottled on the second day after drifting rains.

The picking off decayed blooms is, therefore, desirable, independently of the neatness and good keeping it secures. Men not accustomed to this sort of work, however willing, make but small progress. Much of the work is done with the knife, and in some cases it is necessary, and then it passes from one hand to the other before it reaches the basket or pan. Boys brought up to it when young, will do double or triple the work, dispensing mostly with the knife, nipping all out and over between the nails of the thumb and finger, and in many cases using both hands at once. It is quite a treat to see how quickly some boys and young men can thus clear every faded leaf and bloom from a bed.

The dry weather has again enabled us to overtake our short grass, and we mention it chiefly for chronicling a useful fact, as respects the mowing machines. What we chiefly use are small ones for one man, of Messrs. Green's make; but the principle of all the makers is very much alike. The grass after the wet, and then the great heat, became rather silky, and the knives refused to clear all up as they used to do. The knives were in fault as well as the grass, the cutting side from long use having become very smooth. The axil on which the knives are fixed was taken out, and the one end changed to the other end, so as to bring the other edge of the knives in contact with the plate, and everything is again cut up, be the grass stiff, or as fine and silky as the finest wool. This may be generally known, but it is the first time we thought of it, and we forget whether such a matter is alluded to at all by the different makers.

Went on wholesale with cuttings, placing them in frames and pits; exposed struck Verbenas to the open air, and prepared for housing the more tender plants.—R. F.

#### TRADE CATALOGUES RECEIVED.

R. P. Ker, 4, Basnett Street, Church Street, Liverpool.—*The Hyacinth, its History, Culture, and Propagation, with a Descriptive Catalogue of Dutch and other Bulbs.*

Louis Van Houtte, Ghent, Belgium.—*Oignons à fleurs.*



## COVENT GARDEN MARKET.—SEPTEMBER 23.

MARKET well supplied, but not to the same extent as two or three weeks ago. Peaches and Nectarines may be considered nearly over. Filberts and Cobs are not likely to prove an average crop; but Walnuts are very plentiful. Vegetables are abundant. Of Potatoes the supply is very heavy, and unfortunately there is ample evidence of the wide spread of the disease.

## FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples..... $\frac{1}{2}$ sieve	1	0	2	0	Melons.....each	2	0	5	0
Apricots.....doz.	0	0	0	0	Mulberries....punnnet	0	6	1	0
Cherries.....lb.	1	0	2	0	Nectarines....doz.	0	0	0	0
Chestnuts.....bush.	0	0	0	0	Oranges.....100	10	0	20	0
Currents, Red $\frac{1}{2}$ sieve	0	0	0	0	Peaches.....doz.	3	0	8	0
Black.....do.	0	0	0	0	Pears (kitchen)..doz.	1	0	1	6
Figs.....doz.	0	0	0	0	dessert.....doz.	1	0	2	0
Filberts.....lb.	0	9	1	0	Pine Apples....lb.	3	0	6	0
Cobs.....do.	1	0	0	0	Plums..... $\frac{1}{2}$ sieve	1	0	3	0
Gooseberries.. $\frac{1}{2}$ sieve	0	0	0	0	Quinces..... $\frac{1}{2}$ sieve	3	0	4	0
Grapes, Hambro..lb.	1	6	4	0	Raspberries....lb.	0	0	0	0
Muscats.....lb.	3	0	6	0	Strawberries....lb.	0	0	0	0
Lemons.....100	8	0	14	0	Walnuts.....bush	14	0	20	0

## VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....each	0	4	0	6	Leeks.....bunch	0	3	0	6
Asparagus....bundle	0	0	0	0	Lettuce.....per score	0	9	1	6
Beans Broad..bushel	0	0	0	0	Mushrooms....pottle	1	6	2	6
Kidney.....do	3	0	5	0	Must.& Cress.punnnet	0	2	0	0
Beet, Red.....doz.	2	0	3	0	Onions.....per bushel	3	0	5	0
Broccoli.....bundle	1	0	2	0	pickling.....quart	0	0	0	6
Brus Sprouts.. $\frac{1}{2}$ sieve	0	0	0	0	Parsley..... $\frac{1}{2}$ sieve	1	0	1	6
Cabbage.....doz.	0	9	1	6	Parasips.....doz.	1	0	2	0
Capiscums.....100	1	0	2	0	Peas.....quart	0	9	1	0
Carrots.....bunch	0	4	0	8	Potatoes.....bushel	2	6	4	0
Caulliflower...doz.	3	0	6	0	Kidney.....do.	3	0	4	0
Celery.....bundle	1	0	2	0	Radishes doz.bunches	0	6	1	0
Cucumbers.....each	0	4	0	8	Kinbarb.....bundle	0	0	0	0
pickling.....doz.	2	0	4	0	Savoy.....doz.	0	0	0	0
Endive.....score	1	0	2	0	Sea-kale.....basket	0	0	0	0
Fennel.....bunch	0	3	0	0	Spinach.....bushel	2	0	3	0
Garlic and Shallots..lb.	0	8	0	0	Tomatoes..... $\frac{1}{2}$ sieve	1	0	2	0
Herbs.....bunch	0	3	0	0	Turnips.....bunch	0	4	0	6
Horseradish..bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0

## TO CORRESPONDENTS.

\*- We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

BOOKS (*A Subscriber*).—Stephens's "Book of the Farm." (M. W.).—"The Garden Manual" and "The Vine Manual." The first can be had free by post from our office for twenty postage stamps, and the second for thirty-two stamps. (T. E.).—There is no book devoted to directions for laying out large pleasure grounds, beds, &c., but the first volume of McIntosh's "Book of the Garden," price £2 10s., contains full directions and many illustrations. The "Fern Manual" contains the entire culture of stove, greenhouse, and hardy Ferns. You can have it free by post from our office for 5s. 4d. in postage stamps. (J. W. M.).—Bentham's "Illustrated Handbook of the British Flora," £3 10s.

LAWN INJURED BY GRUBS (*Hortus*).—The grubs sent are young larvae of the common cockchafer. You should have sent children to kill the beetles in the summer. The lawn should be turned up and ducks turned in. Watering with gas tar water repeatedly may be of service, as the grubs are but small at present.—W.

ESSEX RIVAL PEA.—Will Mr. Eley oblige old "NICKERBOR" with the parentage of Essex Rival Pea, for hereby "hangs a tale?" Should this not reach Mr. Eley, "NICKERBOR" will feel obliged by any of his friends forwarding the information.

PLANTING LILIUM CANDIDUM (*A. Sim*).—Now is a good time to take this up, planting as soon afterwards as convenient. It should be planted in good loamy soil, though it will do equally well, if not better, in peaty soil, stirred to a good depth, and if light a little well-rotted manure or leaf-mould will be beneficial. The roots should be covered about 3 inches with light rich soil. The situation should be open. Good, sound, flowering roots are worth 3s. or 4s. per dozen.

TREATMENT OF NIGHT-BLOOMING STOCKS (*Idem*).—They may be procured of any London or large provincial nurseryman. They are of the most easy culture if kept near the glass in a dry, cool, airy part of the greenhouse. No more water should be given them during winter than sufficient to keep them just moist, and, as they are liable to damp off at the collar from frequent and injudicious waterings, good drainage should be provided. If kept cool, dry, and airy they grow and bloom through the winter.

DAHLIA—FUCHSIA—ASTER (*N. B.*).—If the seedling Dahlia prove to be very dwarf it will be an acquisition. The Aster is valueless, and the Fuchsia one of a myriad that are unnamed.

THE PINE-APPLE MANUAL (*Horatio Piggett*).—There are not separate drawings supplied of fruit, succession, and nursing-houses; but there are a section and a ground plan of the fruiting-stove, and the others are stated to be of the same width, the dimensions differing only in length. The range, of course, will be the same height throughout, otherwise it would be unsightly, and more expensive to build. The height can be easily ascertained from the section. The glass roof is in one plane, and the plants can be raised so as to be at a proper distance from it whatever may be their stage of growth. It is easier to raise or lower the plants than to move the glass; therefore it is best to have the glass at a uniform height from end to end of the range; and the width being uniform, the heights of the back and front walls must each respectively be so. The proportions you mention for the length of the fruiting, accession, and nursing compartments are nearly enough those recommended by the author. *Fig. 4*, it should have been stated, is a section of the Pine-stove at Enville Hall, which, however, is readily understood from the context. Sheds at the back of ranges of hothouses should run the whole length of the range. They are always understood to do so by practical men. Amateurs will find it not so easy to perfect the fruit of the Pine Apple in April as they would in May, June, and July; and Queens can be the most easily started into fruit; but the plants must first be fairly grown; their growth checked gradually, but not through starvation by cold (see page 24). The directions given for the successful growth of a hundred plants are applicable to that of ten, or to that of one; but, amongst many, some may fail without the loss being much observed compared with the failure of a few where only few are grown. You may grow a single plant in a single box frame—Mr. Mills found it possible to do so, producing a Providence fruit of the weight of 16 lbs. The compartments into which the range is stated to be divided are each about 15 feet by 104 feet, and seven such can be comprised in the range. If you divide the length, 77 feet, into seven compartments you will find their length run across the range.

STRIKING CUTTINGS OF CERASTIUM TOMENTOSUM (*W. E. M. L.*).—1st. This is not the right season for striking cuttings of Cerastium tomentosum, though they will do if inserted 3 inches apart in light sandy soil, and in a dry warm situation, also in a cold frame, and in pans placed on a hotbed. The best time to take cuttings is in March or April, 2nd. The process of taking cuttings is very simple, and merely consists in taking a bundle of the shoots in one hand, and cutting them off with a knife just below the hand as in reaping, the shoots being cut about 6 inches long. 3rd. Without any further trimming they are to be planted with a dibble, 3 inches apart, where the edging or line is required, inserting them 3 or 4 inches, or two-thirds their length, in the soil, and closing the soil firmly around them. A good watering is then given, and they are watered afterwards during dry weather until established. In March, April, and May the roots may be divided; every part will grow, no matter how small. The divisions should be planted 6 inches apart, for a single line or edging from 6 inches to a foot in width, and in a double row for lines or bands of greater width. At the same season the cuttings may be inserted in the same manner, 3 inches apart, in any open situation, where, duly watered, they will be well rooted by heading-out time, and may be taken up with balls and planted where the edging is required. Cuttings from 12 to 2 inches long inserted the same distance apart in pans of sandy loam, with an inch of silver sand as a surfacing, and, after watering, placed in a frame will be well rooted in a fortnight. They may then be hardened off, and afterwards pricked off 3 inches apart in sandy soil in a light situation, shading for a few days, and in three weeks or a month planted out 6 inches apart where they are to remain. Your 3rd and 4th queries are answered by the reply to the 2nd, and the 5th also, only for so narrow an edging the plants need not be planted nearer than 6 inches, but the nearer they are the more quickly will they cover the ground, or form that which is desired. 6th. It is to be kept in shape by clipping with ordinary garden shears the irregular growths, whether side or upright branches, in the first week in July, when the plants will have grown up sufficiently to form the line required, the clipping tending to make the plant produce those tiny sprays which are one of its most attractive features. The first week in every month it should be clipped at the sides to keep it of the right width, and at top to preserve the proper height, and up to October this will be all it requires. If allowed to remain it will in May be a mass of white bloom far surpassing anything of the colour at that season. When the bedding plants are put out the Cerastium should be cut off quite close, and the creeping roots removed on both sides so as to form the line of the desired width. In a month it will be all that could be wished after a slight trimming. To have it in good order when the bedding plants are put out it should be trimmed in April. After the second year it will require to be taken up and replanted.

VALLOTA PUPUREA NOT FLOWERING (*A Young Beginner*).—The plants being evergreen require light in winter, and ought not, therefore, to have been kept under the greenhouse stage, for what with the drip from the plants on the stage, which would cause the roots to rot, and the diminution of light, the growth could not be perfected. Instead of placing the plants under the stage in December, and keeping them there until March, we advise their being retained on the stage in the greenhouse, and in the lightest and driest part, from the commencement of September to the end of March, with no more water than sufficient to keep the leaves from flagging. When the flower-scape shows the plant should be well watered, and continue to give water while it remains in bloom. When growth commences water abundantly till the leaves attain their full size, after which gradually reduce the water supply, and expose to light and air. It is an evergreen, and requires more light when ripening or perfecting the growths made than during their formation. Ripen the bulbs well in autumn, keep dry when at rest, and never in the dark, water freely when growing, and do not overpot. With this treatment it is the freest-blooming and one of the handsomest and most useful of the evergreen Amaryllids.

POTTING AND PLANTING VIOLETS (*Peppy*).—The Russian and Neapolitan Violets do well either in pots or planted in a bed. They are best in pots when employed for the decoration of the greenhouse or drawing-room, the flowers not being taken from the plants or but sparingly. Plants in pots have the advantage of being readily removed from place to place without injury. Violets are best grown in beds when intended solely for the purpose of furnishing out flowers for bouquets, filling small vases, &c., as the plants give more and a greater continuance of flowers than when grown in pots.



**VINES IN AN ENGINE-ROOM (B. L. T. Steam Engine).**—The dust, we should think, would be great, and the amount of steam excessive, to say nothing of the heat, which would be much too high for Vines; these combined would render successful Grape-growing questionable. But with little dust, steam entirely under command, and the heat controllable, you may grow Vines in your engine-room with a fair amount of success. The heat will be regular, and will require to be reduced by making a greater provision for the admission of air than usual. A border will be required for planting the Vines, and that will have to be outside, and, as the heat will be too great for the Vines to remain in the room all the year round, provision must be made for drawing them out after the leaves fall, and introducing them after a period of rest. Instead of opaque you must use clear glass, and have wires fixed 15 inches from the glass to train the Vines to. Rough plate glass would answer, and it may be procured of the dealers advertising in our columns. The thick glass known as "mill glass" would not suit your purpose. Hartley's rough plate glass is the best. In your room, 20 feet by 13 feet, you might have four Vines—two of Black Hamburgh and two of Buckland Sweetwater. It is for you to decide whether there can be sufficient ventilation provided to bring down the heat to 45° at night when the Vines are first introduced, gradually increasing the temperature so that it may be 55° when the Vines are in leaf, and 60° when the fruit is setting and swelling. These temperatures may be increased 5° by 1 r.m. on cloudy, dull days, 10° on cloudy days with clear intervals, and 15° or 20° when the sky is cloudless; increase in temperature being accompanied by an increased amount of ventilation. You must also decide whether the air of the engine-room can be kept moist—partially, completely, and regularly—and whether that moisture can be so reduced as to afford a dry atmosphere. If there is nothing to fear on these heads, and little or no dust (which can be washed off the leaves by a good syringing), then you may grow Grapes with a fair amount of success; but it is doubtful whether the alterations, &c., required to make the room suitable for the growth of Vines would not be as costly as erecting ainery heated by the waste steam of the engine.

**INSECT IN CELERY LEAVES (H. H. C.).**—It is of very common occurrence. The maggots under the outer skin of the leaves are the larvae of the Celery Fly, *Tephritis oporoides*. The only remedy is to pick off the blistered leaves, and crush them and burn them.

**LANDLORD REMOVING SHRUBS (H. J. G.).**—Your landlord has no right even to come into the garden you rent of him, much less to dig up shrubs and carry them away. You might sue him in the County Court for the damage, and you may order him to quit as a trespasser, and give him into custody if he refuses to leave. You had better consult an attorney.

**PEACHES DROPPING—GRAPES SHANKING (Watchful).**—Your Peaches which drop off sweet and juicy are ripe, and all you want is a net fixed about a foot from the ground so that they may drop into it instead of on the ground. We may have misunderstood you; if so, write again. The cause of the Grapes showing a disposition to shank is probably the drainage being inefficient; and crops ripening during the wet weather we had a month or so ago, with the Vine roots similarly circumstanced, also exhibited signs of shanking. The usual cause of shanking is the roots being in a cold, wet, outside border, and the evil is aggravated when the roots are deep and cold rains set in at the time of ripening. We would recommend the drainage of all Vine-borders to be very effective, and the border to be made inside, or so much of it that the Vines can be planted inside. When the borders are outside they should be protected from cold rains after the Grapes change colour.

**DIANTHUS HEDDEWIGHI HARDY (Idem).**—It is hardy in dry well-drained soil, and especially in that of a sandy gravelly nature; but in cold wet clay soil and exposed situations it is quite tender, requiring a dry sheltered situation, or the protection of a dry cold frame or greenhouse.

**KEEPING GRAPE (L. P.).**—Grapes allowed to remain on the Vine keep better than by any other mode.

**MELONS SPLITTING BEFORE RIPE (R. C. L. II.).**—They split from the rind not expanding in proportion to the growth. Splitting usually occurs after a continuance of dry weather, when the rind becomes nearly as hard as that of a Pumpkin, and it splits from the pressure of the matter impelled into the fruit. We know of no remedy. As a preventive, keep the atmosphere and soil moist after the fruit begins to swell. A deficiency of moisture in the atmosphere and at the root gives a check to growth, and the consequence is the fruit does not swell, but becomes rind-bound. During very bright weather slight shading is also beneficial, especially when the fruit is not protected from sun by the leaves. It is only when Melons are setting and ripening that they need a dry atmosphere, at other times they require as much moisture as Cucumbers in order to swell to a good size, and that they will do in the first thirty days after setting or never. If they are kept moist when they ought to be dry they crack.

**LADY DOWNE'S GRAPE (Pampinus).**—It is, as you say, "a Grape which has now been some time before the public, and is acknowledged to be one of the best late Grapes." It is a free strong grower, and it never acts badly with us, but, on the contrary, requires much more thinning than the Black Hamburgh from setting its berries so thickly. For productiveness it is equal to the Black Hamburgh, often showing two and three bunches on a shoot when the wood has been properly matured in the previous year. It is equally productive on long rods as when a closer system of pruning is practised, but it gives larger bunches by the rod than by the spur system of pruning, as is the case with the majority of Vines. It requires a heated vinery to have it in perfection, and is then a productive and excellent late Grape.

**NAMES OF INSECTS (Lieut. Col. Forster).**—It is the grub known to gardeners as the Leather Coat. It is the larva of the daddy long-legs (*Tipula*). No remedy is known but turning up the earth with a knife round the Cabbages, Lettuces, &c., attacked by the grubs. *Miss Stanley's* insects are one of the species of scorpion-mites (*Chelifer cancrroides*). They are often found fixed by their claws to the limbs of flies and other insects, on which they evidently feed. (*J. L. J.*)—The insects sent are *Ptinus hololeucus*, a small beetle imported into this country from Russia in a cargo of leather. It is not known certainly that they are injurious. (*J. Sanders.*)—The small orange-coloured grubs are those of a species of minute gnat, which has been described under the name of *Tipula cerealis*, but which belongs to the genus *Cecidomyia*. This is the first time that we have heard of its existence in England, having been previously noticed in Baden. It has been suggested that the fields of Barley should be mown at the time the gnats are developed, as this would prevent their being reproduced.—W.

**NAMES OF FRUIT (D. R.).**—*Apples*.—1 and 4, Hollandbury. *Pears*.—1, Gansel's Bergamot; 2, Gendesheim; 3, Fondante d'Antonne. (*E. Hoare*).—1, Duchesse d'Angoulême; 2, Louise Bonne of Jersey; 3, Swan's Egg; 4, Gansel's Bergamot; 5, Bonrre Diel; 10, Napoleon; 12, Comte de Lamy; 14, Louise Bonne of Jersey; 15, Swan's Egg; 17, Belle-Hessine d'Hiver. (*G. Brown, Rayners*).—1, Williams's Bon Chretien; 3, Beurré Lefevre; 4, Beurré Diel; 5, Vicar of Winkfield; 6, Duchesse d'Angoulême. (*W. G.*).—1, Dumelow's Seedling; 2, Lemon Pippin. (*W. Brown*).—1, White Doyenne; 2, Beurré Diel; 3, not distinguishable at present, but certainly not Seckle; 4, Flemish Beauty.

**NAMES OF PLANTS (J. F. R.).**—The specimen was too dried up for us to be certain—moist moss should always be put into the box with specimens. We think it is *Anemone japonica*. (*H. W. S.*)—The specimens were smashed, but they both seem to be of the *Pistil-plum*, *Pilea muscosa*. (*Gregory*).—1, *Eugenia Ugni*; 3, *Eriostemon buxifolium*; 4, *E. myoporoides*. (*G. Brown*).—*Chloris verticillata*. (*A Subscriber, Hereford*).—*Xanthium spinosum*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 23rd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Snn. . . 17	30.294	30.224	81	41	65	63	S.E.	.00	Very fine throughout; cool at night.
Mon. . . 18	30.385	30.353	82	40	64	63	N.E.	.00	Very fine; hot and dry; cold at night.
Tues. . 19	30.377	30.235	81	42	63	62	E.	.00	Foggy; very fine throughout.
Wed. . . 20	30.153	30.052	81	43	63	62	S.	.36	Dense fog; cloudless; hot and very dry air; heavy rain at night.
Thurs. 21	30.290	29.981	67	52	63	61	N.E.	.12	Rain; overcast; cloudy.
Fri. . . 22	30.288	30.227	70	32	62½	61	N.E.	.00	Clear; fine; cold; down to freezing at night.
Sat. . . 23	30.421	30.367	69	44	62	60	N.E.	.00	Fine, dry, with hot sun; cool air.
Mean..	30.315	30.205	75.86	42.00	63.21	61.71	....	0.48	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### DUCK-FOOTED GAME FOWLS—POULTRY CLUB STANDARDS.

ARE duck-footed Game fowls really disqualified when exhibited? Mr. Hewitt stated that duck-footed fowls are "as useless for fighting as exhibiting;" and at the Loughborough Poultry Exhibition some fowls were disqualified on that account. Referring to the "Standard of Excellence" recently published by the Poultry Club, duck-footedness is regarded as a "defect," but not a "disqualification;" and I can mention instances in which a duck-footed Game Bantam cock has received the first prize from some of our first-class poultry judges. The great

desideratum is a standard by which poultry exhibitors and judges are to be guided; but whether the one authorised by the Poultry Club is to take that position or not, it is not for me to say. Many times the awards at one exhibition are reversed at another in the same week on account of the judges having different standards. Exhibitors begin to be greatly discouraged; some of them cease to exhibit altogether, accusing unjustly the judges of dishonesty.

Again referring to the "Standard," I find that Black Bantams with legs of any colour except black or dark leaden blue, are disqualified; yet at the late Keigley Show, where your correspondent states that "some very excellent Game Bantams (Black-breasted Red) were shown, and also some capital Brown-reds," Black Bantams with light-coloured legs took the first prize. It is very galling and looks suspicious when an exhibi-



bitor sends a pen of poultry to an exhibition and takes a first prize, and again in a few days sends the same birds to another show where a pen that took a very inferior position at the previous show now occupies the "place of honour," and his own does not even get "mentioned." Can this state of things be remedied?—J. H.

[I willingly reply that I maintain my previously expressed opinion—that being "duck-footed" is really a disqualification in a Game fowl for exhibition. As regards the "Standard of Excellence" "J. H." alludes to, as published by the Poultry Club, its dictum on the "duck-foot" in Game fowls may, for aught I know, be binding on those who compiled the work named; but as I myself did not lay down those rules, nor comply with the written request of the Poultry Club to revise such rules before publication, I cannot hold myself responsible as one who is invariably adherent to its standards. That many of the characteristics of the various breeds are therein described with precision I unreservedly admit, and also that in the generality of cases much really useful information may be gleaned for the guidance of an amateur as to the first selection of his poultry. I have also frequently arbitrated, even so late as since the publication of the "Standard of Excellence," for members of the Poultry Club, by appointment at public exhibitions, not in subservience to the printed rules, but, on the contrary, exclusively by my own opinions; so that I think our views are not so widely dissimilar as your correspondent would desire them to appear to be.

Since perusing the letter of "J. H." I have purposely ascertained the private opinions of several of our principal poultry arbitrators, and without any one exception their views are conclusive with my own, as to the "duck-foot" in Game fowls. As in all other similar cases, there ever will be a difference of opinion as to the comparative excellence of living stock. Look, for instance, at the cattle awards at Birmingham and London shows, held only within a few days of each other. Although besides a "standard," such arbitrators have the additional advantage of a measuring-tape to determine girth, &c., how frequently have reversed decisions ensued, though they have been as frankly admitted by the judges themselves as arising altogether from alteration of condition alone, and yet in both cases quite as justifiable!

It is not the formation of rules, but their after-application that brings with it difficulty and dissimilarity, especially when the health, or even the life of the objects of the awards, is quite as precarious and open to sudden alteration as our own. Even only a few weeks since, I gave a first prize to a bird in apparently perfect health, yet which died in less than an hour after, leaving both its companions as well as ever. In only ten minutes after the award was given in, it could not then (under my own arbitration) have gained a prize at all.

As regards the statement of "J. H.," that some amateurs cease to exhibit, simply on account of a contrariety of opinion held by judges, no doubt exists; there always are some few persons who cease to exhibit whenever they are not certain of personal success, and most probably in future days it will always continue so to be. These declensions, however, seem hardly reconcilable to the present general success of poultry exhibitors, for despite the withdrawal of the individuals alluded to, the succession of new exhibitors is largely and continually augmenting. The hopes expressed by your correspondent that never-varying decisions will be ultimately attained, I feel assured are visionary, and quite beyond universal realisation.

I am sorry to entirely differ from the statement of "J. H." as to the colour of the legs of the Black Bantams shown at Keighley. They were dark lead colour, and might have been made much deeper in hue, by simply oiling them previous to exhibition, which is admissible. "Light-coloured legs" in this breed I repudiate as strongly as any one can do. I will not myself venture to determine the motives for withholding the greater portion of the paragraph extracted by "J. H." from your report of the Keighley Show, in THE JOURNAL OF HORTICULTURE. He quotes, "Some very excellent Game Bantams (Black-breasted Reds) were shown, and also some capital Brown Reds;" here "J. H." strategically stops short, though the same sentence goes on to say, "the latter, however, were a little too large for competition, though excellent specimens for brood stock." The best pen of Black-breasted Reds shown in this class was a hen short, consequently they were compulsorily passed over.

If your correspondent really only knew by experience how much more easy a task it is for a disappointed exhibitor to cavil at an award when made, and opposed to his interests,

than to predetermine such premium at the outset. I feel confident I am doing him justice when I say, he would not then have written as he has now done.—EDWARD HEWITT.]

## MIDDLETON (NEAR MANCHESTER) EXHIBITION OF POULTRY, PIGEONS, AND RABBITS.

The seventh annual meeting of this Society was held on the 21st instant, and, as regards both the numbers of specimens competing, and also the quality of the birds themselves, proved a great advance upon those of former exhibitions.

This Show has many advantages—among the most prominent, the place of exhibition is peculiarly pleasant and undulating, whilst the dense population of the closely surrounding large towns ensures, weather permitting, an attendance of visitors that few strangers could believe possible unless themselves eye-witnesses. Great numbers of persons availed themselves of omnibuses, that for the day plied every half hour from Manchester. These, in all instances, were filled until not another individual could be accommodated, whilst the railways put on "special trains every quarter of an hour," bringing such a regular influx of sight-seers, that the parties in care of the admission gates had actually to be changed every hour from sheer fatigue. The receipts must, therefore, have been of a very satisfactory nature indeed, and, as the managing Committee state they intend to eventually make the Middleton Exhibition second to none, a still further increase of the prize schedule may confidently be looked forward to another season. This year the entries of poultry alone were considerably above five hundred pens, irrespective of an entry of more than one hundred pens of Pigeons, and a good competition likewise in Rabbits also.

The night previous to the Show was enough to quite damp the ardour of even the most sanguine of the Managers, a dull, dark, leaden sky, portending an unfavourable change of weather. Go where you might, the fears of bad weather seemed the only theme of conversation. Weather-glasses were examined minutely, and at very brief intervals; long-indulged hopes now gave way altogether, for about eight the rain began to fall in torrents, and without the least apparent prospect of a change. This continued far into the night, or, more truly, the early morning of the Show day. About daybreak, however, the storm (for thunder had prevailed in the distance many hours) suddenly abated, the sun began to gladden the tops of the hills, and it would be difficult to say which rose the quicker, the blighted hopes of all concerned, or the mercury of the now utterly neglected barometers. Had the weather continued as unfavourable as anticipated, not only would it have proved fatal to the best interests of the Society itself, but would, without doubt, have resulted in frightful injury to the poultry exhibited, for they were mostly shown in pens of bee-hive shape, entirely open to every change of weather that might ensue. Nor is the construction of this kind of pen as to want of shelter the only objection; another, and equally grave one, is also inevitable. If fowls are required to be examined in hand by the Arbitrators, prior to giving their awards, the taking out of one bird from a pen gives almost invariably the opportunity of escape to its companion, and the Game pullets were not slow to avail themselves of the chance of so doing, although several men were provided to obviate this difficulty, for each pen had to be fairly lifted before any fowl could be got at without injuring its plumage; and of necessity at the close of the Show when repacking, the same objection retarded operations very considerably. Again, the water-can for fowls being fastened to the pen inside, at every lift the contents were upset, causing a damp pen for some considerable time.

Now, on the subject of exhibition pens, it may be well to name a fact that beyond dispute proved itself at Middleton—viz., that fowls have as great a distaste for hot sunshine as they have to exposure in sudden showers. Among a considerable length of pens that were constructed of wood with wire fronts only, containing more than a hundred lots, without even a solitary exception, each trio were closely grouped upon one another in the shady corner, a relief impossible to those fowls whose misfortune from open pens all round entailed continuous panting and discomfort. We are informed an improvement in this direction will not be neglected.

The Game fowl classes were particularly good, and were evidently the leading attraction of the Show. The Brown Reds were beyond question the most successful as prize-winners, and the competition in the class for pairs of pullets (the principal prize for which was a silver cup) was undoubtedly as keen as could be referred to at any of our most noted poultry meetings. The *Brahmas* were also remarkably good, and none of the prizes to this variety were won without a hard struggle. The general improvement in this breed during the last two years is remarkable. Of *Hamburghs* the best class was the Silver-spangled, in fact it is hopeless to wish for better. A very noted old exhibitor, however, sent a peculiarly good pair of pullets with a hen-feathered cock of this breed, now-a-days a novelty, and a fatal fault we thought years back exploded. The *Game Bantams* were of exceedingly good quality, with a numerical entry that proves how quickly they become favourites among poultry fanciers. Almost all breeders expressed themselves disappointed in the *Cochin-China* classes, and it was a positive fact one of the best, if not decidedly the very best, pens shown of this breed was entered in the "selling class," where every pen was claimable, as by rule, at an outside price of 30s. the pen.

The Cochins alluded to, Partridge-coloured ones, some very good Spanish, and several other pens were immediately disposed of, for buyers of good birds proved very plentiful at Middleton.

That renowned breeder of *Geese* and *Ducks*, Mrs. Seamons, of Aylesbury, left behind her a very scanty board of prizes for division among her rivals. The lady's birds were shown in wonderful condition, nor could a more conclusive acknowledgement of their merits be suggested than the statement of many competitors—"it was no use trying to win when she exhibited."

The Middleton Show of *Pigeons* was stated to be exceedingly fine, but the continuous throngs of people, by which they were surrounded, prevented many from seeing this portion of the Exhibition.

The *Rabbits* were excellent, and evidently possessed much local interest.

So close was the competition among the poultry exhibitors, that although the Arbitrators commenced their arduous duties at so early an hour as 6 A.M., it was nearly mid-day before their labours were concluded.

**GAME** (Black-breasted and other Reds).—*Chickens*.—First, J. Wood, Haigh, near Wigan. Second, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth. Third, W. Bourne, Monsall Lane, Newton Heath. Highly Commended, R. Payne, Brierfield, near Burnley; J. Halsall, Lowgreen Farm, near Wigan. *Cockerel*.—First, J. Halsall, Ince, near Wigan. Second, J. Jackson, Bank Top, near Bury.

**GAME** (Any other variety).—*Chickens*.—First, Sir St. G. Gore, Bart., Wirksworth (Duckwings). Second, W. Bourne (Duckwings). Third, R. Whittun, Brierfield, Lancaster (Red Piles). *Cockerel*.—First, Withheld. Second, W. Bourne (Duckwing). *Pullets*.—First and Cup, T. Statter, Whitefield (Brown Reds). Second, J. Wood (Brown Reds). Third, J. Schofield, Castleton Moor, Castleton (Black Reds). Fourth, R. Payne, Brierfield, near Burnley (Brown Reds). Highly Commended, J. Fletcher, Stoneclough, near Manchester; A. Nuttall, Newchurch, Manchester; F. Sale, Crewe; W. Bourne.

**SPANISH**.—*Chickens*.—First, E. Brown, Sheffield. Second, N. Coop, Chawbent. Third, J. Marchant, Halifax. Highly Commended, T. Greenwood, Dewsbury. *Cockerel*.—First, N. Coop. Second, E. Brown. Third, M. Brookbank, Manchester. *Pullets*.—First, T. Greenwood. Second, H. Beldou, Bingley, Yorkshire.

**DORKINGS**.—*Chickens*.—First, Sir St. G. Gore. Second, T. Statter. Third, J. White, Warlaby, Northallerton. Highly Commended, H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham; D. Parsons, Cueden, near Preston; A. Fenton, Crimble, near Rochdale. *Cockerel*.—First, J. Stott, Healey, near Rochdale. Second, Mrs. Dale, Scarborough. *Pullets*.—First, D. Parsons. Second, Mrs. Dale.

**BRAMA POOTRA**.—*Chickens*.—First, R. W. Boyle, Bray, Co. Wicklow. Second, T. Statter. Third, H. Lacy, Hedden Bridge. Highly Commended, E. Greenwood, Overtown. *Cockerel*.—First, R. W. Boyle. Second, H. Lacy. Highly Commended, T. Statter. *Pullets*.—First, R. W. Boyle. Second, T. Statter. Highly Commended, E. Leech, Rochdale.

**COCHIN-CHINA** (Buff and Cinnamon).—*Chickens*.—First, W. A. Taylor, Manchester. Second, C. Jennison, Belle Vue, Manchester. Third, W. Massey, Fulford, Yorkshire. *Cockerel*.—First, Withheld. Second, W. A. Taylor. *Pullets*.—First, C. Jennison. Second, A. Bamford, Tonge Lane, near Middleton. Highly Commended, C. Jennison; C. E. Risdale, Skircoat, near Halifax. Commended, J. Stott, Post Office, Healey, near Rochdale.

**COCHIN-CHINA** (Partridge and Grouse).—*Chickens*.—First, J. Hindson, Tonge Lane, Middleton. Second and Third, Withheld. *Cockerel*.—First, R. J. Wood, Brinsall Hall, Chorley. Second, Withheld. *Pullets*.—First and Second, R. J. Wood, Brinsall Hall, Chorley.

**COCHIN-CHINA** (Any other variety).—*Chickens*.—First and Third, Withheld. Second, W. Gamon, The Green, Thornton-le-Moors, Chester. *Cockerel*.—Prize, J. B. Wilkinson, Marsden Hall, near Burnley. *Pullets*.—First, Withheld. Second, P. F. Taylor.

**HAMBURGH** (Any colour).—*Chickens*.—Silver Cup, J. Fielding, Newchurch, near Manchester.

**HAMBURGH** (Golden-pencilled).—*Chickens*.—First, S. Smith, Northowram, Halifax. Second and Third, T. Wrigley, jun., Tonge Lane, Middleton. *Cockerel*.—First, S. Smith. Second, T. Wrigley. Highly Commended J. Wrigley, Middleton. *Pullets*.—First and Second, T. Wrigley, jun.

**HAMBURGH** (Silver-pencilled).—*Chickens*.—First, Sir St. G. Gore, Bart. Second, H. Beldou. Third, J. Preston, Allerton, near Bradford, Yorkshire. *Cockerel*.—First, J. Preston. Second, H. Charnock, Church, near Acerrington. *Pullets*.—Prize, C. Illingworth, Barley, near Otley.

**HAMBURGH** (Golden-spangled).—*Chickens*.—First, J. Buckley, Tainton, near Ashton-under-Lyne. Second, J. Ogden, Chadderton. Third, Sir St. G. Gore, Bart. Commended, R. Simpson, Chadderton. *Cockerel*.—First, J. Buckley. Second, M. H. Broadhead, Stubbins, Holmfirth. Commended, J. Moody, Edge End, Holmfirth.

**HAMBURGH** (Silver-spangled).—*Chickens*.—First and Cup, J. Fielding, Newchurch, near Manchester. Second, Sir St. G. Gore. Third, J. Lancashire, Chadderton. Highly Commended, T. Collinge, Boarshaw Clough, Middleton. Commended, J. Partington, Middleton. *Cockerel*.—First, J. Hope, Werneth, Oldham. Second, H. Beldou, Bingley, Yorkshire. Highly Commended, S. Lancashire, Chadderton. *Pullets*.—First, J. Fielding. Second, E. Collinge, Boarshaw Clough, Middleton. Highly Commended, J. Lees, Hollinwood; T. M. and J. Ashton, Broadbottom, near Mottram, Cheshire; J. Collinge; T. Rhodes.

**HAMBURGH** (Black).—*Chickens*.—First, J. Lord, Little Green, Middleton. Second, R. Battersby, Heywood. Third, J. Hope. *Cockerel*.—First, R. Battersby. Second, W. Holt, Middleton. Commended, E. Worsley, Middleton. *Pullets*.—First, J. Marshall, Middleton. Second, J. Holt.

**ANY VARIETY OF POULTRY NOT INCLUDED IN THE CLASSES**.—*Chickens*.—First, S. Farrington, Astley, near Manchester (Black Polands). Second, J. M. Procter, Hull (Silver-spangled Polands). Third, P. Unsworth, Lowton, near Warrington (Black Polands). Highly Commended, H. Beldou (Silver-spangled Polands). *Cockerel*.—First, S. Farrington (Black Polands). Second, Withheld. *Pullets*.—First, H. Beldou (Silver-spangled Polands). Second, S. Farrington (Black Polands).

**GAME BANTAMS** (Any colour).—First, J. W. Morris, Rochdale (Black Red). Second, J. D. Newsome, Batley, near Leeds (Black Red). Third, D. Parsons, Cueden, near Preston (Brown Red). Highly Commended,

C. W. Brierley, Middleton. *Cockerel*.—Cup, First, and Third, J. W. Morris (Black Red). Second, D. Parsons (Black Red). Commended, R. Tate, Leeds.

**BANTAMS** (Any other variety or colour).—First, C. W. Brierley (Gold-laced). Second, E. Hutton, Pudsey, near Leeds (Blacks). Third, J. Cope, Barnsley (Cochin Bantams). Highly Commended, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire; Messrs. S. & R. Ashton, Mottram, Cheshire; C. W. Brierley.

**SELLING CLASS**.—First, E. Smith, Middleton (Spanish). Second, J. Horrocks, Tonge (Partridge Cochins). Third, A. Bamford, Middleton (Buff Cochins). Highly Commended, T. Wrigley, sen., Chadderton; J. Hargreaves, Skipton in Craven; H. Shuttleworth, Middleton. Commended, T. Dym, Halifax; J. Jackson, Bank Top, near Bury. *Cock*.—First, H. Beldou (Brahma). Second, C. Broadbent, Saddleworth (Golden-spangled Hamburg). Highly Commended, T. Wrigley.

**DUCKINGS**.—First and Second, Mrs. M. Seamons, Hartwell, Aylesbury. Third, E. Leech, Rochdale.

**DRUCKLINGS** (Rouen).—First, E. Leech. Second, W. Gamon, Chester. Third, J. D. Newsome, Batley, near Leeds. Highly Commended, T. Wakefield, Golbourn, near Warrington; E. Leech; Sir St. G. Gore, Bart.

**DUCKINGS** (Any other variety).—First, D. Parsons (Grey Calls). Second, H. Nield, Worsley (Buenos Ayrean). Third, E. Hutton (Grey Calls).

**EXTRA STOCK**.—Prize, C. W. Brierley (Carolina or American Summer Ducks).

**GOSLINGS**.—First, Mrs. M. Seamons, Hartwell, Aylesbury (Empden). Second, T. Houllier, Revidge, Blackburn (Toulouse). Highly Commended, J. Radcliffe, Balderstone Hall, near Rochdale. Commended, F. J. Bright, Green Bank, Rochdale.

**TURKEYS**.—Prize, E. Leech, Rochdale.

## PIGEONS.

**ALMOND TUMBLERS**.—First, H. Yardley, Market Hall, Birmingham. Second, J. Fielding, jun., Rochdale.

**CARRIERS**.—First, C. J. Samuels, Ashville, Longsight, near Manchester. Second, W. Massey, Fulford, York.

**POWTERS**.—First, Messrs. C. & E. Roys, Greenhill, Rochdale. Second, H. Yardley. Commended, C. J. Samuels.

**BARBS**.—First, J. Thackray, York. Second, W. Massey. Highly Commended, L. Glassey, Rochdale.

**JACOBINS**.—First, J. Thackray. Second, C. J. Samuels. Highly Commended, J. B. Pinder, Harpurley; Messrs. C. & E. Roys. Commended, C. J. Samuels.

**FANTAILS**.—First, J. Thackray. Second, H. Yardley. Highly Commended, S. Farrington, Chatmoss, Astley, near Manchester.

**OWLS**.—First and Second, J. Fielding, jun. Highly Commended, The Right Hon. the Countess of Derby, Knowsley Hall, Prescot. Commended, J. Thackray.

**NUNS**.—First, J. Thackray. Second, Messrs. C. & E. Roys.

**DRAGONS**.—First, H. Yardley. Second, J. Thackray. Very Highly Commended, J. Smith, Openshaw Bridge, Manchester. Highly Commended, Messrs. C. & E. Roys; S. Heap, Tainton, near Ashton-under-Lyne. Commended, A. Hilton, Butler Green, Chadderton.

**ANY OTHER VARIETY**.—First, The Right Hon. the Countess of Derby. Second, H. Yardley, Birmingham. Highly Commended, J. Thackray, York (Magpies).

**SELLING CLASS**.—First, J. Hawley, Burnley. Second, J. Thackray (Turbits).

## RABBITS.

**SPANISH**.—First, Messrs. C. & E. Roys, Green Hill, Rochdale. Second, A. Firth, Hyde, Cheshire. Highly Commended, J. Lucas, Rochdale. Commended, G. Barlow, Chadderton.

**ANY OTHER VARIETY**.—First, T. Jackson, The Mount, Alkington. Second, T. Leech, Middleton. Highly Commended, R. F. Smith, Chester (Himalaya Rabbit).

The Judges for Poultry were Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, near Birmingham, and Joseph Hindson, Esq., of Barton House, Everton, Liverpool. The prizes for *Pigeons* and *Rabbits* were awarded by Mr. Morgan, of the Waterworks, Manchester, and Mr. Pearson, of Cheetham Hill, Manchester.

## THE WORCESTER POULTRY EXHIBITION.

SEPTEMBER 19TH AND 20TH.

Few shows of poultry have met with more uninterrupted success for many years past, than that now so well established at Worcester. It is certain, however, that this success is mainly to be attributed to the never-failing care of the Honorary Secretary, Mr. Holland: for early and late his best energies seemed to be thoroughly devoted to its welfare and permanence. That the Worcester Corn Exchange is most especially suited to the purposes of a poultry show few will deny, and as the weather was fortunately most propitious throughout, we have the pleasure to record one of the most successful results yet attained by any poultry show held in the neighbourhood of Worcester. It is evident that this Show will now prove annually progressive; but even should such be the case, it is certain by a little careful pre-arrangement, that the Worcester Corn Exchange might yet comfortably accommodate even double the number of entries of the present year.

The prize schedule is a very liberal one, and independently of premiums to the classes of £2 and £1, five silver cups are given, respectively for the best pen of Game fowls of any breed, the best pen of Grey Dorkings, the best pen of any breed of Cochins, the best pen of the four varieties of Hamburgs, and for the best pen also of Bantams, irrespective of breeds. This, of course adds materially to the competition, as any winner of a silver cup can receive either the silver plate proposed, or its money-value at his own option.



Nothing can be more fair, nor can any appointment be more duly appreciated by exhibitors.

The *Game* classes were excellent throughout, and formed a very prominent feature of the Show. Mr. James Fletcher, of Stoneclough, near Manchester, however, managed to secure the first premiums in every class, consequently, the silver cup full, as a matter of course, to his share, though the Judge expended a good deal of time unnecessarily in its appropriation, the birds being very even in quality, and the Arbitrator naturally conceiving, until the decision was recorded, that they belonged to different parties. The cup birds were Black-breasted Reds. In *Spanish*, the Show was, undoubtedly, not so good as some others of former years, and it certainly struck that the hens in the first-prize pen, like some other bipeds of the same sex, had taken a liberal discount from their actual age as pullets of 1865. The Coloured *Dorkings* were one of the best classes in the Show. We noticed with regret, however, a malformation that discomfited not a few pens—viz., the spurs being placed on the outside instead of the inside of the legs, a serious drawback to success. In *Cochin-China* fowls, no doubt the Partridge and Grouse-coloured were the best varieties as classes, the White ones next, and the Buffs taking the rear. A first-rate pen in the latter class (of Buffs) exhibited by Mr. Tomlinson, of Birmingham, were quite a feature of the Exhibition, and took precedence for the cup. Mr. Tudman, of Welshpool, showed some magnificent Grouse-coloured ones, that when moulted out completely will be difficult to beat. Mr. Chase's White *Cochins* also fully supported that gentleman's reputation in this pretty variety. The *Brahmas* were one of the best classes in the Show, and the competition was most severe. In *Hamburghs*, the Worcester Show as usual stood well. Silver-pencilled winning the cup for the best of any variety; but all the prize birds in each of the four classes were unusually good. In the *Poland* class some exceedingly perfect specimens of Silver-spangled ones, the property of Mr. Atkins, of Birmingham, took the lead. In the "Any distinct variety" class, a pen of the now-so-rare *Ptarmigans*, exhibited by Mr. Zurhorst, of Dublin, were universally admired, and were shown in truly unexceptionable condition. In *Bantams* the show was good, but many pens were moulting heavily.

The *Geese*, *Ducks*, and "Selling classes" were all filled abundantly and with capital specimens, and, consequently, not a few of these entries changed hands. Nothing could possibly exceed the cleanliness and good order of the Exhibition, and all the birds shown, with a single exception, were in perfect health.

**GAME** (Black or Brown-breasted Reds).—First and Cup, J. Fletcher, Stoneclough, near Manchester. Second, T. Burgess, Whitechurch, Salep. Highly Commended, T. Statter. Commended, J. Fletcher.

**GAME** (Duckwings and other Greys and Blues).—First, J. Fletcher. Second, Sir St. G. Gore, Bart., Hopton Hall, Derbyshire.

**GAME** (Any other variety).—First, J. Fletcher. Second, E. Winwood. Commended, Sir St. G. Gore, Bart.

**SPANISH**.—First, W. Rouse. Second, G. Lamb. Highly Commended, G. Lamb. Commended, Rev. R. Young.

**DORKINGS** (Coloured).—First and Cup, Sir St. G. Gore, Bart. Second, O. E. Cresswell, Hanworth Rectory, Hounslow, Middlesex. Highly Commended, Rev. M. Amplett; Mrs. Young; J. Hill, Bladon Castle, near Burton-on-Trent. Commended, J. Norman; J. Holme, Knowsley, near Prescot.

**COCHIN-CHINA** (Cinnamon and Buff).—First and Cup, H. Tomlinson. Second, F. W. Zurhorst. Highly Commended, T. Stretch. Commended, T. Tatham.

**COCHIN-CHINA** (Partridge and Grouse).—First, E. Tudman. Second, J. Peele. Highly Commended, T. Stretch; E. Tudman; J. R. Redbard; J. Stephens.

**COCHIN-CHINA** (White).—First and Second, R. Chase, Balsall Heath, Birmingham.

**BRAHMA POOTRA**.—First, T. Statter. Second, R. W. Boyle, Galtrim House, Bray, Co. Wicklow. Highly Commended, R. W. Boyle; H. Lacy, Lacy House, Hebdon Bridge.

**HAMBURGH** (Golden-pencilled).—First, W. Lawton. Second, Sir St. G. Gore, Bart.

**HAMBURGH** (Silver-pencilled).—First and Cup, T. W. Walsh. Second, Sir St. G. Gore, Bart. Highly Commended, Mrs. Alsopp, Hindlip Hall near Worcester.

**HAMBURGH** (Golden-spangled).—First, J. Roe. Second, T. May. Highly Commended, Sir St. G. Gore, Bart.

**HAMBURGH** (Silver-spangled).—First, Sir St. G. Gore, Bart. Second, A. K. Wood, Burnside, Kendal. Commended, W. Stephens.

**POLANDS** (Any variety).—First and Second, G. C. Atkins, The Lightwoods, near Birmingham.

**ANY DISTINCT VARIETY**.—First, F. W. Zurhorst (Sultans). Second, Sir St. G. Gore, Bart. Commended, J. K. Fowler, Prebendal Farm, Aylesbury (Crève Cœurs).

**BANTAMS** (Any variety).—First and Cup, H. Shumack. Second, R. B. Postans. Highly Commended, W. Bradley, Severn Navigation, Worcester; R. B. Postans; D. Parsons; T. Davies, Stew Hill, Newport, Monmouth; J. Cook, Severn Bank Tannery, Worcester. Commended, G. Manning; Sir St. G. Gore, Bart.

**BANTAMS** (Gold and Silver-laced).—First, M. Leno, jun. Second, H. S. Salsbury. Highly Commended, M. Leno, jun. Commended, G. Manning.

**BANTAMS** (Black or White).—First, Rev. P. W. Story. Second, Sir St. G. Gore, Bart. Highly Commended, E. Cambridge, St. Philip's Iron Works, Bristol; T. Davies.

**GEES**.—First and Second, J. K. Fowler. Highly Commended, Mrs. Welferstan.

**DUCKS** (Aylesbury).—First, H. Jones, The Pheasantry, Dintan, Aylesbury. Second, J. K. Fowler. Highly Commended, Sir St. G. Gore, Bart; F. W. Zurhorst; H. Jones. Commended, T. L. Mayes; J. K. Fowler.

**DUCKS** (Rouen).—First, Sir St. G. Gore, Bart. Second, R. W. Boyle. Commended, J. Holme.

**DUCKS** (Any other variety).—First, Sir St. G. Gore, Bart (Carolina Ducks). Second, T. H. D. Bayley, Ickwell House, near Biggleswade, Beds (Grey Call). Highly Commended, T. L. Mayes (Buenos Ayres). J. K. Fowler (Buenos Ayres); F. W. Earle, Edenhurst, Hayton, Liverpool (Buenos Ayres). Commended, A. J. Lamb (Wild Ducks).

**SELLING CLASS**.—First, Rev. A. K. Cornwall (Dorkings). Second, R. H. Nicholas (Chinese Silkies). Highly Commended, Rev. A. K. Cornwall (Game Bantams). Commended, R. B. Postans (Dorkings); T. C. Mayes (Golden-pencilled Hamburghs); J. Lycett (Geese); Rev. M. Amplett (Guinea Fowls); D. Young (Cochin-China); W. Hodges (Game).

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, near Birmingham, officiated as Judge.

## WOODSTOCK POULTRY SHOW.

(From a Correspondent.)

THIS was held at Blenheim Park, the seat of His Grace the Duke of Marlborough. The following were good classes:—Dorking chickens, White Aylesburys, White Geese, Grey Geese, Black Turkeys, and Grey Turkeys. The two champion prizes, given by C. E. Thornhill, Esq., for old and young poultry of any kind in the Show, were easily obtained by the Duchess of Marlborough with a first-class pen of Aylesbury Ducks, and a splendid pen of Silver-Grey Dorking chickens. The following are the prizes awarded:—

**SPANISH**.—Prize, Rev. — Dodd. *Chickens*.—Prize, — Cactus. **DORKINGS**.—Prize, Lieut.-Col. Thomas. *Chickens*.—Prize, the Duchess of Marlborough.

**BRAHMAS**.—Prize, the Duchess of Marlborough. *Chickens*.—Prize, the Duchess of Marlborough.

**COCHINS**.—Prize, Rev. — Dodd. *Chickens*.—Prize, J. James. **HAMBURGS** (Spangled).—Prize, — Hillersden. *Chickens*.—Prize, — Hillersden.

**HAMBURGS** (Pencilled).—Prize, J. James. *Chickens*.—Prize, J. James. **GAME**.—Prize, W. Rowles.

**DUCKS** (Aylesbury).—Prize, the Duchess of Marlborough. *Ducklings*.—Prize, the Duchess of Marlborough.

**DUCKS** (Any colour).—Prize, W. Rowles. *Ducklings*.—Prize, J. Hutt. **GEES** (White).—Prize, Viscount Dillon. *Goslings*.—Prize, Viscount Dillon.

**GEES** (Grey).—Prize, the Duchess of Marlborough. *Goslings*.—Prize, the Duchess of Marlborough.

**TURKEYS** (Black).—Prize, H. L. Gaskell. *Poulters*.—Prize, Viscount Dillon.

**TURKEYS** (Grey).—Prize, — Barnett. *Poulters*.—Prize, the Duchess of Marlborough.

**CHAMPION PRIZE FOR THE BEST PEN OF ANY AGE**.—The Duchess of Marlborough.

**CHAMPION PRIZE FOR THE BEST PEN OF CHICKENS**.—The Duchess of Marlborough.

Mr. H. Yardley, Market Hall, Birmingham, acted as Judge.

## TARPORLEY AGRICULTURAL SOCIETY'S POULTRY SHOW.

(From a Correspondent.)

THE annual Show of the above Society, held at Tarporley on the 21st inst. under the very able management of Mr. Vernon, the Society's Secretary, together with a working Committee, proved a good one. Lord Binning, the President of the Society, who occupied the chair at dinner, expressed himself much pleased with the manner in which the Show was carried out. It took place in a spacious tent, fitted up with pens from Nantwich, in a field belonging to Richard Aston, Esq.

The following is the list of awards:—

**DORKINGS** (Grey or White).—First, W. Vernon. Second, Sir P. Egerton, Bart., M.P. Commended, W. Vernon.

**SPANISH** (Black).—First, J. Sheen. Second withheld.

**GAME** (Any colour).—First, — Grocett. Second, — Woolley.

**HAMBURGS** (Spangled).—First and Second, J. L. Sellon.

**HAMBURGH** (Pencilled).—First and Second, — Bates.

**ANY OTHER BREED**.—First, — Woolley. Second, J. Shaw. Highly Commended, — Shaw.

**GUINEA FOWL**.—First, — Newport. Second, — Dain.

**DUCKS** (Aylesbury).—First and Second, J. Grocett.

**DUCKS** (Rouen).—First and Second, — Prescot.

**TURKEYS**.—First, Sir P. Egerton, Bart., M.P. Second, — Goulbourn.

**GEES**.—First, — Barber. Second, Mrs. Wade. Highly Commended, — Prescot.

Mr. Heath, Nantwich, was the Judge.

## PATENT HATCHING MACHINE.

A company (limited) is in process of formation for the sale of the Patent Hatching Machine. Our opinion of the invention remains the same—that it is certainly the best thing of the sort we have ever seen, and one calculated to be eminently useful to all interested in Game and poultry. We do not, however, expect that at any time there will be an artificial mother as good as the natural one. This one consists of a box about 5 inches high, from the top of which are suspended strips of woollen fabric or flock, reaching to the bottom, but fastened only at the top. They consequently readily yield to every motion of

the body of the smallest chicken, and form around it not only protection from draught, but they provide the heat that is essential to growth.

The machine will shortly be advertised, and will be seen at work in all its details. It is eminently calculated to interest the amateur and man of science. We believe it will be found very profitable to those who look to poultry as part of the means which provides a livelihood.—B.

### MORPHOLOGY IN FOWLS.

I AM not myself at all fond of malformations and monstrosities, but two so peculiar have just accidentally dropped into my hands, that I send them to your office, as there are individuals who feel an interest in such things.

Both the birds were killed on the same day by one of our principal poulterers, nor were the parties who plucked them aware of the eccentricity of either till pointed out to them.

The first singular freak of Dame Nature was a full-grown Duck with two wings on one side and one on the other. The "double wing" I forward dried, but when just killed, and consequently pliant, you could open or shut them at pleasure, as they would fold over each other, showing but little singularity when closed beyond a common wing, though the flight feathers of each were alike fully formed.

The same day a well-grown chicken was killed, and proved to be the owner of the two feet sent. They are web-footed entirely between the two external toes, and also much more webbed than usual between the middle and inner toes. When I first saw it the body was entirely plucked, consequently, thus nude, I can only say no malformation of body existed. The head was evidently that of a well-bred Brahma pullet, pea-combed, and dark-feathered. The two legs, also now forwarded, were at the first densely covered with feathers on the outside, quite 2 inches long; but unfortunately these were stripped off before I saw it again, and it had occurred to me to send this odd lot to the Journal. Some of the nails of the feet are worthy of attention on account of their close similarity to those of a Duck, the remainder being precisely like those of a common fowl.—E. HEWITT, *Eden Cottage, Sparkbrook, near Birmingham.*

[The malformations are as Mr. Hewitt describes. The double wing is such a duplication as occasionally occurs in all domesticated animals; but the web-footed Brahma Pootra seems something more, and we should have considered it an evidence of an intermixture with the Duck tribe if Mr. Hewitt had not written "No malformation of the body existed."]

### POINTS OF BRAHMA POOTRAS.

I HAVE at various times placed a protest in your pages against making colour a prominent point in Brahmas. It appears, however, inevitable, and the important part would seem to be to obtain the best.

I am led to these remarks by your reply to "A SUBSCRIBER, Ireland." You there state, "the reddish brown and cinnamon are both objectionable colours." I should agree to this, if this colour were the prevalent tint; still, I believe I am correct in writing that some breeders prefer an orange tint over the pencilling of the breast in the hen.

I know one of our most successful exhibitors is of this opinion, and I understood him to say that he had kept Brahmas largely in America before they came into fashion here, and that he considered this the correct colour. I notice in "The Standard of Excellence," that there is no mention made of this orange colour. My experience of dark Brahmas leads me to say that the cocks may be found of two colours—silvery white, and straw-coloured white hackle, back, and saddle, &c. The former for the most part have the breast black, the latter spotted with white. The former have rarely any bronzing on the wing, the latter, perhaps, always have a touch of this, sometimes very objectionably so; still, my experience of the shape and substance of the straw-coloured birds, with the addition of the spotted breast, leads me to prefer these. Dark Brahma hens may be seen, as I believe, of three different colours. I cannot see that one of these is any better than another, whilst I have headed the prize list in tolerably stiff competitions with birds of each variety.

The three varieties I have noticed are dark brown pencilling, light grey pencilling, and dark (almost black) grey pencilling. The first are those that usually have the breast more or less of

an orange tint, and the ground colour is a very light brown. The light grey are exceedingly beautiful birds, the ground colour I take to be nearly white, the pencilling is more distinct, possibly because of the lighter colour of the ground. The breasts are often beautifully pencilled, but are frequently quite white—a great defect, as I take it.

Lastly, let me notice the dark grey. Here the pencilling is almost black, and the ground colour is darker. The breast is often very light, almost white, each feather beautifully laced with black or dark grey, making a very pleasing contrast. The head and hackle feathers are black, though some traces of silver are to be found as the hackle approaches the shoulders. I am disposed to think that some of the best-shaped birds I have ever seen have been of this colour, whilst some of my cottage friends tell me they lay better than the other colours.—Y. B. A. Z.

### REGICIDE AMONG BEES.

HAVING had some further experience this season of regicidal attacks by bees I propose relating it, and at the same time fulfilling the promise which I made so long ago to consider what has been advanced on the subject by Mr. Lowe in a series of able and well-written articles which appeared in "our Journal," and extended throughout the whole of January to the commencement of February in the present year.

On the 14th of June I discovered the queen of a nucleus closely imprisoned in a dense cluster of her own workers, and being satisfied by former experience that her life was really in imminent danger, I at once proceeded to release her from her tormentors. As my mode of effecting her deliverance differed from that adopted by Mr. Lowe, who states that he forced the reluctant bees to quit their hold by means of a small twig, I may as well describe it, believing that it is attended with less risk to the valuable life of the hapless prisoner than almost any other. Placing the dense knot of bees gently in the palm of my left hand, I carefully detach the workers one by one with my right hand, and throw them into the air, quietly strolling round the garden in the meantime, so as to baffle them in their attempt to return, and this process is continued until the cluster is reduced to very small proportions, and the queen herself becomes distinctly visible. I then convey the remainder in-doors, where I complete the release of the royal captive in front of a closed window, so that if she chance to take wing I may be sure of experiencing no difficulty in recapturing her. I should add that this operation is always performed by me without gloves, and that it very rarely entails a sting, the chance of which I am, however, perfectly willing to encounter rather than risk entire failure by clumsily manipulating with covered hands. I then subjected the distressed monarch to a milder form of imprisonment in a small cage, and returned her to her hive. I should add that she was a remarkably fine Ligurian queen, only six days old, having been hatched on the 8th of June.

On the same day I made a similar discovery in the case of another Italian queen, also at the head of a nucleus, and seven days old, having been hatched on the 7th of June. I had at once recourse to the same mode of proceeding, and shut her also up in her own hive out of the reach of her relentless persecutors.

Both these queens were set at liberty the next morning, when, the regicidal frenzy having passed off, they were well received by their worker sisters.

It is not a little singular that three days afterwards I again found both these queens imprisoned at the same time, when a similar course of treatment on my part was attended with a like fortunate result, and no attack has since been made upon either of them. The larger of the two queens escaped entirely unscathed, and having commenced egg-laying on the 22nd of June is now one of the finest and most fertile I possess; whilst the other, although with one wing permanently distorted and constantly projecting from her body at right angles, began to lay eggs on the 20th of June, and has since proved herself by no means deficient in fecundity.

The third instance did not come under my direct observation, but occurred during my absence at the seaside to a young queen of such a diminutive character that she only obtained a reprieve through my excursion. On my return I found she bore the marks of severe imprisonment in the mutilation of two of her legs on the left side, and believing her, in the absence of eggs, to be unimpregnated, I soon destroyed her as being altogether useless. A *post-mortem* examination, although



it proved me to have been mistaken on this point, gave me no reason to regret the loss of so diminutive and mutilated a queen.

The fourth and last case has caused me much vexation, having cost me the loss of a young queen bred late in the season, and which I was especially anxious to preserve. On the evening of the 4th inst. I noticed a violent commotion among the inhabitants of a nucleus box containing a queen thirteen days old, having been hatched on the 22nd of August. On opening the hive and lifting out the combs I presently discerned the horrible little regicidal cluster, with whose appearance I have, unfortunately, become too familiar not to recognise it immediately; and having manipulated it in the manner before described, I had the mortification of finding its nucleus to consist only of the lifeless and disfigured remains of my once beautiful queen—a mortification which was by no means diminished on a minute examination leading me to believe that she had been murdered on her return from a successful wedding trip, and in this, as in a former instance related last year, my hopes had indeed been blasted in the very moment of their fruition.

So much for my more recent experience of regicide and regicidal attacks among bees. I will now turn to the consideration of Mr. Lowe's articles on the subject, to which, however, he has preferred giving a different name.

In "our Journal" of the 3rd of January, page 19, Mr. Lowe expresses an opinion that the queen, in a case previously related by me, was "evidently wounded" before being returned to her own hive, where she was incarcerated and killed. This is, however, quite a mistake, since I can assure Mr. Lowe that, on the contrary, she was perfectly unhurt by the strangers by whom she had been so briefly imprisoned.

As all the instances I have now related refer to queens artificially reared they would unquestionably appear to bear out Mr. Lowe's idea, that such queens are peculiarly liable to maltreatment by their workers. Such, however, is not my own opinion. These miscarriages bear but a small proportion to the number of queens successfully reared, and none of them escape discovery. My observation of apiaries in which natural swarming alone takes place, convinces me that at least as great a proportion of mishaps of some kind happen to young queens, but the construction of the hives, and lack of observation on the part of the bee-keepers themselves, preclude the production of evidence which would in all probability establish the fact, that queens reared in the ordinary manner are quite as liable to become victims to regicidal attacks as their so-called "artificial" sisters.

I am unable to indorse the opinion of "A LANARKSHIRE BEE-KEEPER," that regicidal attacks on young queens may always be referred to the presence of stranger bees; nor can I, on the other hand, agree with Mr. Lowe, that they are owing either to defects in the procreative powers of the queen or to the want of timeous fecundation. In the first two cases which I have related, both the queens which I succeeded in rescuing commenced egg-laying within the average time, and have since proved themselves fully competent to fulfil all the duties of their position; whilst the one that perished so miserably was barely thirteen days old, and had I been so fortunate as to have been warned in time to save her, would probably have turned out by no means inferior to her rescued sisters.

Whilst thus doubting the theories advanced by others, I must honestly confess to being unprepared to propound any of my own. So far as my observations extend, regicide and regicidal attacks still appear to me to be a mysterious and very unsatisfactory chapter in the natural history of the honey bee.—A DEVONSHIRE BEE-KEEPER.

### GAS TAR INJURIOUS TO BEES.

ONE of your correspondents asks if gas tar is prejudicial to bees. If my experience is worth anything, he ought on no account to use it. Some years since I covered the walks of my kitchen garden, where I kept my bees, with a mixture of gas tar and ashes from the furnace of a steam boiler, and in a day or two all the walk in front of the hives was strewed over with thousands of bees in all stages of decrepitude. It seemed to act on them like chloroform, only they never got up again.

Whilst I am on the subject of bees, let me ask how the bees get rid of the drones. You see them generally in August driving them out of the hive by hundreds, but I have very rarely seen one stung to death. If observed carefully, ninety-nine out of every hundred are held by the working bees at the

base of one of the wings, which the bee seems to be biting as ferociously as possible; and my belief is, although I have never seen the remark made nor a similar question asked, that the wing is weakened by this, and breaks down during the flight of the drone after escaping from its persecutors.—T. G.

### LIGURIANS IN STAFFORDSHIRE.

I SEND the sole surviving queen raised from the brood of my first Italian queen. I believe she is rather more than three years old, and shall be obliged by Mr. Woodbury informing me if she exhibits any symptoms of an exhausted spermatheca. She has been very prolific during the whole of this season. I have not seen this queen since last summer, and could not swear to her identity with the one raised in July, 1862; but the hive has never changed queens to my knowledge, and the colour of her progeny this year agrees with that of the two preceding years. She is either three years old, or not more than one.

The hive which I reserved for late drones still contains a great number of those gentlemen. They have a young queen which is, I have no doubt, impregnated, but she had not commenced to lay a few days ago when I examined the hive. She is almost certain to prove pure. A second queen was either lost on her wedding trip, or killed by her subjects, as she has disappeared. The bees in the drone hive are persecuting the drones.—J. E. B.

[The spermatheca of the queen which accompanied your letter proved, on examination, to be fully charged with spermatozoa, nor did it exhibit the slightest sign of exhaustion.—A DEVONSHIRE BEE-KEEPER.]

GAME BANTAM CUP AT BIRMINGHAM.—I have received the following promises of subscriptions:—(Geo. Manning, Esq., £1 1s.; Mr. J. Crossland, jun., £1 1s. I hope other exhibitors will allow me to add their names.—R. B. POSTANS, *Brentwood, Essex.*

### OUR LETTER BOX.

WHITE SPANISH FOWLS (*A. P. B.*).—We have not seen any White Spanish fowls for a long time. They were always looked upon more as pets and eccentricities than anything else, and were not largely bred. They lacked the contrast that forms the chief beauty of the Spanish—black plumage, white face, and red comb.

CALNE POULTRY SHOW.—We are glad to observe the Committee show their appreciation of the value of Brahmas by making separate classes for light and dark. We trust the error in the schedule of their being styled light and dark pencilled will not cause confusion, as it was not observed until too late for alteration. The classes are well divided, and the prizes though not large, as liberal as the funds will admit of.

EARTH FLOON OF POULTRY-HOUSE—NESTS (*A. S. B.*).—After seeing the floors of the pens at the Poultry Company's establishment, and their entire freedom from offensive smell, we would, if we had need of manure, turn over the dry earth of the poultry-house floor three times weekly, and remove it entirely, and replace it with fresh dry earth at the end of every two months. We think that a nest having for its flooring nothing but perfectly dry sandy earth would be excellent, and free from vermin than if lined with hay or straw.

POINTS IN SILVER-SPANGLED HAMBURGERS (*J. B. B.*).—Well-formed combs; piked behind, and the pike turning slightly upwards, firmly placed on the head and perfectly straight. The hackle feathers of the hen should be black and white-striped. A white hackle is a defect. The tail should be white, but tipped or mooned with black at the end of each feather. The body should be mooned all over, and the wing laced and barred. Legs blue.

PROFITABLE POULTRY (*Pussy*).—Brahmas, Cochins, or Spanish will be the birds that will suit you best. They will agree with the common barn-door fowls; but we do not see why these latter should be kept if you adopt our suggestion of one of the breeds we have named.

PEACOCK'S FEATHERS BRITTLE (*J. P.*).—We are at a loss to know to what to attribute the breaking of the Peacock's feathers, but he will recover his plumage.

POULTRY DISEASED (*C. T. T.*).—We believe the rain, which is beginning to fall as we write, will remedy many of the diseases which have tormented you, and us, and many more. Everything is too dry and husky. Give every fowl affected a table-spoonful of castor-oil, continue the bread and beer, and give to each a pill of camphor as large as an ordinary pea. VULTURE-HOKED BRAHMA POOTRAS (*W.*).—The vulture hook is as objectionable in these as in the Cochins. The legs should be well feathered. We hardly know what to advise in the case you mention. We have never had a similar case. We should advise that it be treated with stimulants.

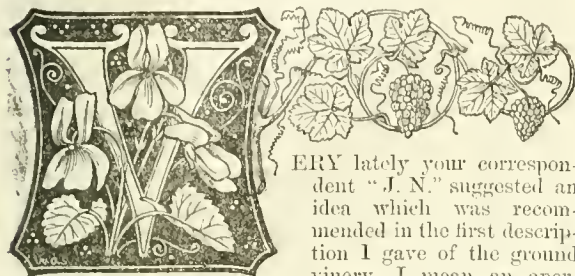
CANARY WITH SORE FEET (*S. D. H. H.*).—Sore feet may arise from two causes. If the perches cross each other so that they catch the dirt, the feet become dirty and sore. Wash the feet clean and anoint them with salve. Scrape the perches clean, and alter them so as not to catch the dirt. Sore feet may also proceed from wool or the fibres of silk or cotton becoming entangled around them, cutting to the bone and becoming embedded in the flesh, causing the toes to mortify and drop off. Wash the feet clean, pick out the fibres—a magnifying glass may be necessary to enable you to see them—then anoint the feet, and if you get out the thread they will soon heal. This is not infrequent when ladies allow their birds wool or floss silk to build with.—B. P. BRENT.

## WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 3—9, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.	
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.				
3	TU	Walnut leaves fall.	63.8	44.6	54.2	16	6	af	6	32	af	5	45	4	14	1	11	276
4	W	Virginian Creeper turns red.	64.7	43.4	53.8	19	7	6	30	5	16	5	16	5	0	20	11	277
5	TH	Sloes ripe.	63.2	41.1	52.2	19	9	6	28	5	40	5	38	6	16	37	11	278
6	F	Common Reed Grass ripe.	62.0	44.0	53.0	21	11	6	26	5	25	6	1	8	17	55	11	279
7	S	Maple and Beech leaves fall.	62.6	44.6	53.6	19	12	6	23	5	6	7	20	9	18	12	12	280
8	SUN	17 SUNDAY AFTER TRINITY.	61.5	42.3	51.9	20	14	6	21	5	52	7	23	10	19	29	12	281
9	M	Poplar and Cherry leaves fall.	60.6	42.5	51.6	21	16	6	19	5	45	8	37	11	20	45	12	282

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 62.5°, and its night temperature 43.2°. The greatest heat was 80°, on the 4th, 1859; and the lowest cold, 25°, on the 5th, 1850; 8th, 1852; and 9th, 1849. The greatest fall of rain was 1.06 inch.

## GROUND VINERIES.



VERY lately your correspondent "J. N." suggested an idea which was recommended in the first description I gave of the ground vinery—I mean an aperture at each end under the gable. I found, however, that

although calculated to allow the egress of heated air, it was of no perceptible use if the bricks for ventilation were properly arranged. Till this season I have never had a scorched leaf, never any red spider; but foreseeing the importance of free ventilation in confined gardens, my ground vineries are in a most exposed place. I have recommended two rows of bricks, placed so as either to make two rows of pigeon-holes, or so as to make the interstices double the size—i. e., double the depth of a single row of bricks. Treated thus, Vines grow healthily, and the fruit ripens well. No better, no other, mode of ventilation is required, if my seven years' experience is of any value. I grow but few Vines in ground vineries, merely because I have more Grapes than my family and friends can consume in lean-to vineries; but I am aware of the extent Grapes can be grown in these simple structures, as I know that a clergyman in Berkshire sold his ground-vinery Grapes for £20, which he distributed among the poor of his parish.

My favourite Vine is a Trencham Black, which I have suffered this season to bear fifty bunches merely for the experiment; but the berries did not set well, owing to the Vine being taxed too heavily. This Vine has now run through seven five-foot lengths, and is of course 35 feet long. I intend to place some small heaps of compost at intervals of 20 feet, so that fresh roots may be produced, and I hope to live to see it 100 feet long. I see no reason why it should not reach to 200 feet. Its fruit was fully ripe the first week in September, and was of the most delicious flavour.

I can see a great future for these interesting structures. Some variation in the training of Vines may be exercised. Instead of the Vine lying on the slates it may be trained to a wire in the centre, about a foot from the ground. For this purpose the vineries should be more roomy than I at first recommended. Three feet in width at base will give ample room for one Vine trained to a wire in the centre, and for two rows of double lateral cordons of Cherry, Peach, Apricot, Pear, and Plum trees, which by summer pinching may be made most prolific trees under glass, and are most easily protected from our spring frosts. My ground vineries used for this purpose have no bars, and are well and cheaply made by Mr. James Rivett, builder, Stratford, Essex.

With regard to geothermal ventilation mentioned by

No. 236.—VOL. IX., NEW SERIES.

"J. F.," it would in my opinion be perfectly impossible to keep Vines in health without considerable volumes of external air passing into the vineries. In the south of England there is always heat enough to ripen Hamburgh Grapes. If geothermal heat could be applied under the vineries, and I believe it can be, Grapes would ripen early in summer, but they must have abundance of air.

As to the paraphernalia of hinges and apertures at end or at top, I believe them to be of no consequence. In all new methods of cultivation simplicity should be the rule, or people get bothered. As far as my experience has gone, the simple method of low ventilation by the apertures formed in the rows of bricks is quite sufficient; still I am not bigoted enough to despise the hinged vineries of Mr. Wells—they are luxuries, and, like all such things, they must be paid for liberally.

Feeling interested in the question whether Grapes would ripen better suspended from a wire in the centre, and as close as possible under the ridge, so as to be in the hottest part of the vinery, I have this moment (Sept. 21), walked up through the rain to my little batch of ground vineries on a sand hill 600 yards from my house, with my man Friday. I find that the bunches hanging from the upright spurs are just under the ridge, and a trifle over a foot from the ground—in short, just where they would hang if suspended from a wire in the centre. The Grapes in these bunches are nearly or quite ripe; the bunches lying on the slates are not quite so ripe; but the ripest of all are bunches hanging so that their tips touch the slates. This, I hope, has settled the question; so we may now have our Vines trained to wires in ground vineries, and calculate that if the bunches are suspended so as to touch or partially to lie on the slates, so as to receive their radiation, Grapes will ripen well.

On examining the Vine I have alluded to—a Black Hamburgh, I discovered that enough bunches had not been cut off in spring; and to my dismay, my man found, on counting them, sixty-three bunches, averaging half a pound each, on this Vine of five years' growth, occupying a ground vinery 14 feet long, 30 inches wide at base, slope of roof 20 inches, depth in centre 16 inches, placed on a single row of bricks end to end, with spaces of 4 inches between each for ventilation. There are no apertures at the ends, but the structure is almost exactly after that given in the seventh or eighth edition of the "Miniature Fruit Garden." A very interesting fact is shown connected with the above vinery—One or two bunches on the same Vine are outside at the end, and within 3 inches of their brothers under the glass; the unsheltered bunches are full of small berries as hard as green sloes.

Although I have thus mentioned and given a favourable account of these rather narrow 30-inch-wide vineries with bars, I much prefer those without bars, and 3 feet, or even a little more, wide. The extra width adds but little to their first cost, and room under glass is always so convenient and valuable.

The one great trouble of these structures is thinning the berries, at all times and in all vineries a tiresome operation, yet most necessary, for without it such Grapes as the

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Black Hamburgh and most others become very inferior, and will not ripen kindly. It is just probable that we may originate sorts from seed that will not require this thinning. I only know of one variety at present likely to allow of it—viz., the Fintindo, a round-berried, deep purple Grape of excellent flavour. I have reason also to think that the Sultana, a white Grape from Smyrna, may be placed in the same category, as my Smyrna friends tell me it is highly esteemed there, owing to its berries never being crowded, but hanging loosely and detached on the bunches.

It is some years since I prognosticated that Grapes would be grown by the acre: the time is coming. 1 lb. per square foot could be grown in ground vineries properly cultivated, on a light good soil = 43,500 lbs. Take off half for spaces between vineries = 21,750 lbs. Deduct one-third for more space between and casualties: say 14,000 lbs. per acre—a low calculation.—THOMAS RIVERS.

## THE DUBLIN BOTANIC GARDENS.—No. 1.

### GLASNEVIN.

GLASNEVIN has been so often described, and is so well known to botanists who have visited Dublin, that a new notice of it may seem superfluous; but every one who inspects these celebrated gardens must look at them with different eyes. Experience and taste differ so widely, and the season of the year when they are visited is so likely to vary, every week making a change in the aspect of the place, that the impressions produced a fortnight since on one who had never before crossed the Irish Sea, may possibly possess a little novelty.

From the useful little handbook prepared by Dr. Moore, it appears that the gardens were founded about seventy years ago, when the Royal Dublin Society possessed themselves for this purpose of the pretty and very suitable grounds, rendered classic by the former residence in the midst of them of the poet Tickell. The house which he inhabited still exists, and many of the fine trees that cast their shadows upon the sward were, no doubt, of his planting. The names of other literary celebrities are associated almost as intimately with Glasnevin, as those of Steele and Parnell, and, pre-eminently, that of Addison. An undulating walk between two rows of tall Yews, which at the time of my visit were strewing the ground with their scarlet berries, is said to have been a favourite resort of the famous essayist, and is known to this day as "Addison's."

The general surface of the ground is very agreeably diversified. There is sufficient of slope to produce picturesque effects; the rise and fall are renewed in every part, and the side furthest from the entrance is bordered by the little river Tolka, advantage of which has been taken to secure a capital Salicetum, and also to introduce many moisture-loving herbaceous plants. These flourish charmingly on the reedy margins, and give a completeness to the collection far more natural than is possible where the preparation for such plants has to be wholly made by hand.

The hothouses and greenhouses are capacious and well-placed. Objection may be taken to the external lines of the Palm-house, but it is not fair to talk of the ill-binding of a book when the contents are as rich as the heart can wish. A marvellous place is this Palm-house. Perhaps the grandest thing it contains is a plant of that most exquisite of tree Ferns, the *Cyathea serra*, a vast vegetable parasol, the stem gracefully bending, fawn-coloured, and glossy at the upper part, with silvery-grey scales, while the great green pellucid fronds, silvery upon the under surface, form arches upon every side. Another very striking plant in this house is a great *Urania speciosa*, the vast leaves so intensely equitant at the base as to form a solid flat mass, and the general aspect reminding one of the vegetation in a pantomime scene. The crowd of rare and noble plants that share in the shelter of this grand department is beyond description. The simple list of species, with deserved commendations of their healthy and hearty condition, would make an article.

The adjacent houses are equally rich, especially in plants noted for their economic value, and many of great rarity; yet, pleasant as it is to take in almost at a glance the Clove and the Camphor tree, the Sugar-cane and Guava, it is even more delightful to be harpooned at every turn by such things as Cockseeds with pink flowers; the pyramidal variety of the same plant with queer little wattles on the very summits of the tall spikes; *Martynia proboscidea*, with large and handsome lilac corollas, internally speckled, and with a yellow stripe down the centre; *Drosera dichotoma*, with clusters of white

flowers, each  $1\frac{1}{2}$  inch across, and on a scape 2 feet high, and so on till we cry out *El Dorado!* Such strange Begonias too. How slight an idea is given of this singular genus by the common "elephants' ears" of our conservatories! Instead of the large grey leaf spanned by a silvery arch, or dotted with white, here we have the most elaborately digitate, and in the tomentosa a leaf as fleshy as that of a *Sedum*, and completely covered with pale pubescence. Not far from it was an odd *Convolvulus*, raised from seeds lately received from India, and flowering for the first time. The corolla, instead of being campanulate with an even rim, has the five petals united for so short a distance upwards that they hang together like those of the *Azalea* when half withered. In other respects it resembles the common *Convolvulus major* of every garden. It is the sight of such plants as these that renders a visit to Glasnevin so valuable. The notions we pick up in ordinary gardens must necessarily be imperfect, because derived from a single expression of what is often a multiferm type or idea, and we discover at the same time how false are all definitions; for directly we have laid down what seems to be the rule, something comes in to upset it. No fence is so ingeniously constructed, but some queer exceptional thing is found walking through it.

In the Victoria regia-house, *Lilæ* is freely grown in several distinct varieties. There, also, is the pretty *Pontederia cordata*, abounding in spikes of gay blue flowers. This plant does well during summer in a tank out of doors, where the water is slightly warmed from within. It is also being tried, and apparently with success, in the swampy ground where earlier in the summer we may see the lovely bloom of the *Menyanthes*. Among the very special oddities was shown a *Maregravia*, clinging like Ivy to the wall, only that the leaves instead of being Ivy-like, are oblong, an inch or two in length, and light green. In Brazil this plant is seen clinging to every old tree-stump, both in the forests and when washed-up on the river-banks—a sort of vegetable barnacle. It would have been missed but for the kindness of Mr. Orr, the Superintendent of the plant-houses, whose courtesy and attention to visitors are on a par with his extensive and most accurate knowledge of plants. It would be invidious to mention his name without saying at the same time, that everything a botanical visitor to these famous gardens can desire in connection with the hardy and out-door plants, whether names or location, is afforded by Mr. Macardle, who positively seems a piece of the garden, so bound up in he, heart and soul, with its life and contents. The ancients had a pretty fable in their mythology about hamadryads—nymphs who lived and died with the trees they belonged to. The living for thirty years in a garden like this seems to show that poesy may have more truth in it than we are sometimes disposed to admit, though put in a fanciful way.

Innumerable are the small evergreen shrubs and suffrutescent plants found in the greenhouses and the little receptacles supplementary to them. Every type of Cape and Australian botany is represented; and not inferior to this class of plants is the collection of succulents. I was much struck while revelling in this opulent in-door garden with the number of butterflies that were at play among the plants. Probably there may be as many in other places, but it has not been my good fortune to observe them—good, since their painted wings and delicate movements seem to harmonise best of all with these rich and rare plants of foreign climes. Minutely examining the little flowers of *Hypericum aegyptiacum*, the stamens were found to be united, not simply at the base, as in all the British species of this genus, but into three little arborescent bunches, after the manner of those of certain Myrtaceous plants—*Beaufortias* to wit. *Disandra prostrata* was trailing from the tub of a tree Fern, and had leaves  $2\frac{1}{2}$  inches across; and *Oxalis sensitiva* was almost a weed, producing its yellow flowers in plenty, and shrinking when touched.

The gardens, strictly so-called—such portion of the ground, that is to say, as is not conservatory, present features if possible more surprising. The first plant noticed was *Reaumuria hypericoides*, a neat little grey-green undershrub in the greenhouse border, with axillary pink flowers the size of a sixpence. The student of vegetable anatomy should not fail to examine the ovary and ovules of this plant whenever the opportunity may offer. Alongside was the singular and showy *Amicia zygomeris*, a purplish-green leguminous undershrub, with hollow and pubescent stems, and leaves formed of four large, curiously truncated leaves, that differ from those of most other Leguminosæ in possessing abundance of transparent dots. The stipules are conspicuous and remarkable; the flowers (not seen at Glasnevin), are yellow. *Phygelius capensis* makes a very

handsome border-plant here, resembling *Gesnera zebrina* in inflorescence, but more like a *Pentstemon* in foliage. As for *Tritoma uvaria*, its grand scarlet and yellow sceptres were lifted in clusters of sixty or more, literally in sheaves. *Solanum jasminoides* instead of being, as in Lancashire, a greenhouse plant, was here flowering abundantly against a wall, like a *Clematis*; while *Clerodendron fatidum* made great bushes, crowded with dull purple flowers growing in bunches like those of an *Ixora*.

Perhaps the first observation made by a visitor accustomed to the immediately modern style of flower gardening, would be the total absence from Glasnevin of bedding-out plants. There is nothing to be seen here of the Turkey-carpet mode of arranging flowers; no patches of red, white, and yellow; no long lines and ribbons, where these would be seen in other Botanic Gardens, as at Kew, Birmingham, Sheffield, Manchester, Liverpool, &c.; the ground is considered too precious for anything but science; and, in truth, after a minute or two's consideration the mind is far more gratified, for instead of two or three ideas, we have two or three hundred, as genuine a "feast of reason," as in the other case we have blaze for the eye. The lawns in front of the houses are covered with flower-beds; but these, instead of *Calceolarias* and *Pelargoniums*, endlessly recapitulated, are devoted to as many different races or families of plants, and as some species or others are pretty nearly always to be found in bloom, the contrasts are as remarkable as the wealth. Just then the Composite were in their zenith, and magnificent was the unfolding of golden stars and bouquets. Every conceivable modification of the aureolus may be studied here, and happy may be the Dublin art-student who, like a truly wise man, will visit such a garden when he wants ideas and inspirations, enjoying not merely the privilege of the flowers, but of the absolute freedom of access to them, for this admirable place is thrown open to the public every day with some slight reservations, and like the Phoenix Park, and the delicious sea-margins of Bray and Killiney, are the unbought property of every Dublin man, woman, and child. Immense is the privilege thus liberally accorded, the greater, perhaps, that it extends to the Sunday afternoon, when if a man be disposed to obey the Divine behest, to "Consider the Lilies," after the scythe of the mower shall have swept them from the field, here may he learn "how they grow," and gather from their simple loveliness a serene and elevating wisdom. Though a man may be indifferent to written truth, he cannot shut himself up from the access of the humanising lessons that enter his mind from flowers and trees, in a place where he is required to be calm, as here on the Sabbath afternoon. If possible, the visitor to Dublin should try to get into Glasnevin early in the morning. The birds are then in full song; the short-lived flowers of the *Cistus* and the *Convolvulus* are at their best, and saving a gardener or two in the distance, we are "monarch of all we survey."

Closely adjoining the borders devoted to the natural orders of herbaceous plants, is the best portion of the arboretum. There are many fine trees and many very interesting species. Rubbing the leaves of various species of *Juglandaceæ*, with a view to compare their odours, I noticed that the leaves of *Juglans nigra* are totally destitute of odour, while those of *Juglans fraxinifolia* and of *Carya tomentosa* yield a pleasant though rather faint perfume, and this only after considerable bruising of the tissue. Old *Juglans regia*, "the kingly Walnut," evidently stands first, alike in marbled timber, in kernel, and in scented foliage. Among other interesting trees are here to be seen *Tilia lutea*, with yellow flowers, and leaves resembling those of *parvifolia*, the true *Acer saccharinum*, for which the *A. platanoides* is often mistaken; *Acer rubrum*, but like the former, never flowering; and several of those grand Mexican Conifers, the tufted leaves of which resemble locks of straight green hair, such as *Pinus apulcensis* and *Montezumæ*, for they do not thrive here, the soil being unfavourable. A fine tree of *Corylus columnata* stands close at hand, now covered with the rudimentary catkins, that in March, 1866, will be in the full pride of their beauty. It is very pleasing to note in this tree, as in the common Hazel, the Filbert, the Alder, the Birch, and to a considerable extent in the Willows, how spring is prepared for months before its consummation; Spring, as we witness it, some three months after New Year's-day, being simply the last scene of a long drama, the greater part played, it is true, behind the curtain, but with enough of the incidents set forth to view, as here in the *Corylus*, to assure us that it is a succession of phenomena, covering, perhaps, six months. Hazel catkins in preparation for the following year may often be found as early as July.

The lower portion of the arboretum contains many unusual shrubs, such as *Shepherdias*, and two or three kinds of *Symphoricarpos*, there are also an *Aristotelia Macqui*, various *Pavias*, &c., all very interesting. A walk alongside leads to a portion of the garden set apart for small quantities of the plants specially useful in connection with manufactures, and the food of man and cattle, partly with a view to experimentalising upon them, partly to give completeness to the idea of the garden, which is thus rendered highly educational. Here we see such out-of-the-way plants as Woad, Madder, Fennugreek, *Chenopodium Quinoa*, and *Bohmeria nivea*. Artichokes lift their great mauve-coloured heads, and even the common Cabbage is allowed a place. Further on is a little sanctum, with the door locked, in which there are all sorts of new and odd things, Laplanders, Indian Buddhas that have not yet been named, and many another stranger from the far east, for at Glasnevin we have not alone the stereotype and duplicate style of plant, but new faces from all parts. From this garden Kew was furnished with its Balsam of Tolu trees, and from this garden were dispersed the first plants of that queen of ornamental Grasses, the *Gynerium argenteum*. The two sexes of this magnificent Grass are here planted near each other, in order that the contrast between them may be the more readily observed. The staminate plant sends up its panicles to the height of only about 6 feet, those of the female or pistillate rise to the height of 18 feet, but are destitute, of course, of the beautiful anthers that hang upon every branchlet of the former. By artificial fecundation seed is obtained easily and in plenty.

Two more references and I have done. One of the most striking objects in the garden is a green plant of *Aristolochia siphon*, trained upon a wire cage in such a way as to give the exact semblance of a lady's dress, from the waist downwards, and trailing behind, upon the ground—rather amazonian in the proportions certainly, being 11 feet high, but the breadth and imbrication of the great cordate leaves give at once the idea of continuous substance and of folds and plaits. The other remarkable specimen is not in the garden, but in the trim enclosure adjoining Mr. Macardle's residence. It is a tree compounded of some twelve or fifteen different species! The stock is a Quince, rising with a clear stem to the height of about 5 feet, and hereabouts have been grafted Apple, Pear, Mountain Ash, Thorns of various kinds, and other Rosaceæ, to the number above stated—a most curious and complete illustration of what "a happy family" may be made to consist of in plants. The work is entirely that of Mr. Macardle, and has been in progress about four years. Another stock has, in addition to various Rosaceous plants, a vigorous young *Mistletoe*!

It is not too late in the season for any lover of plants who has not seen Glasnevin to go over and enjoy it at once. The Dublin Exhibition, and cheap trips in connection therewith, offer additional inducements, and I can promise that there shall be no disappointment. While in Dublin, however, on no account must a visit be missed to the gardens belonging to Trinity College. These are almost another Glasnevin, as I shall endeavour to show in detail in a week or two.—LEO.

#### SEEDLING FRUITS—EATABLE FUNGUSES.

WHAT you throw out in page 205 as a mere probability—namely, that the Pitmaston Orange Nectarine sprang from a white-fleshed parent, is, I believe, a fact. Mr. Williams, its raiser, so asserted, but until the experiments of Mr. Rivers showed that this was no impossibility, few were disposed to believe it; and, indeed, Mr. Rivers has, within fifteen years, brought out more facts bearing upon the subject of seedling Peaches and Nectarines than were ever discovered during centuries before. Bushels of stones must be sown annually in the United States, France, Australia, &c., where Peaches grow like weeds, and require no expense of glass; but the well-directed and limited observations of one man have produced greater results than those of all others put together.

I have often raised plants from Pitmaston Orange and its descendants uncrossed; once, and only once, I had a seedling without glands. Last year I crossed four flowers of Pine-apple Nectarine with Early Newington, and of the four seedlings, three are, like the male parent, without glands. No great gain I am aware.

I regret to see (page 218), that friend "CLAPHAM" has been unfortunate in his experiments on Funguses. I can only say



that I have partaken, with much pleasure and no detriment, of *Agaricus procerus*, *cephastes*, *deliciosus*, and *nebularis*. The last is excellent. The appearance of *deliciosus* is, no doubt, suspicious. He is a large orange-coloured fellow, turning green when bruised. All Fungi should be eaten sparingly, well cooked, and well masticated. I dislike *oreades*, *prunulus*, and *personatus*. The latter is sold at Covent Garden under the name of *Blewitts*.—G. S.

### THE MODERN PEACH-PRUNER.—No. 16.

#### CLOSE PRUNING FOR THE OPEN AIR.

I HAVE now to state the original theory as broached about thirty years ago, and carried out up to the present date at Chartres. The system has been applied exclusively to trees in the open air.

In the earlier stages of growth it is a recognised principle that the summer stopping of the shoots and their winter regulation should be but small, consisting mainly in merely pinching-off the point of the growing shoot, and especially in checking the advance of any shoot which has a tendency to become gross. In this way the tree is kept in fair balance. It is thus prepared for the work in hand, to be done only when the tree is about to bear a little.

M. Grin says that he commences then by untying all the leading branches in November. (In our climate good judges prefer October.) A selection of bearing shoots is then made. Those situated at the back of the branch are rigorously suppressed by being cut clean out. Forerights, on the other hand, are preserved. These, under this close system, never get too far from the wall's heat, and form an essential part of the bearing wood. In England they are too often cut out, which is an erroneous notion altogether. Of the other classes of shoots, those which show the best-formed eyes (ripe buds), and which have the best promise of wood-buds for succession at their base, are carefully chosen to bear the next year's crop. These shoots are then, generally, cut back to two eyes, and if the upper eye be the more developed and the stronger, it is bisected before it attains any length, and is thus arrested for a time. Meanwhile the lower and the more feebly-constituted eye receives all the spring sap, and is prevented from languishing. The wood-shoots which spring from each spur—and here it is important to mark the distinction made on the continent between a spur and a shoot, and also to state that the term "spur" refers mainly to the product of manipulation—are kept as a reserve to be transformed, by close summer pinching to two leaves, into fruit-bearers, as required. On the spurs situated on the upper sides of each leading branch one shoot will suffice to bear the next season's crop, but on the spurs situated on the lower sides of the leading branches it is better to leave two shoots. All these shoots are now cut back to two good eyes. This constitutes the general winter pruning.

The first summer operations commence in the middle of April, in ordinary seasons; or, in the beginning of May, in backward years. At this time the number of shoots to be left is finally settled. As they develop themselves their true character is best seen, and our author has taken care to have an abundant reserve, which is one excellent result of all close pruning—plenty to choose from, but no useless growth. Some of the shoots vary much in character. "Here, for instance," said our author to me, "we have a shoot with only a *bouquet de mai* (cluster spur, Class 5), at its base, while all the shoot above this cluster is bare for perhaps 2 inches." We, therefore, prefer to cut down the shoot to this single cluster, and we know how to make it either bear a wood-shoot or fruit. If the former is decided on, we shall have to bisect all the flower-buds, and then the central wood-bud will extend freely, which it otherwise would not do. (Here we find bisecting recommended instead of the too common plan of disbudding. This is a useful hint to orchard-house pruners who desire beauty of arrangement.) Should a shoot have two of these clusters at its base, then it may be cut down to them very closely. It then presents an excellent basis for the summer work, for one of these clusters may have its flower-buds bisected to allow the central wood-bud to extend, and the other cluster may be permitted to bear fruit. (Besides, it generally occurs, that by this close keeping-in of these groups the latent-buds at the point of insertion on the parent branch develop during the summer heat, and thus form an excellent reserve. Let us also remark the dependance placed on shoots of Classes 5 and 7 for fruit-bearing. This ought, at least, to teach us, that in the orchard-house with our

climate comparatively at command, these two classes can be safely relied on to bear the general crop. Such, at least, is my own experience, and on my old trees, hardly anything but these classes appear. This is the end and the result of close pruning.) If at the base of a spur the buds seem unusually latent, and it is difficult to develop them after one season, some even asserting it never to happen, then the shoot of the year which springs from that spur is shortened-in to one good group of triple buds, and at the first May stopping whatever appearance of fruit there may then be is carefully suppressed, and the central wood-bud of this group is allowed to extend. Thus a new shoot is obtained, not so well placed as the others, but still near enough to produce.

The general run of shoots may be said to be pinched-in to two well-developed leaves. The two or three small leaves which are seen lower down on the shoot, having no buds in their axils, do not count. This first pinching-in to two leaves generally takes place in May, the time being regulated, however, by the season and the locality, and is done as soon as the shoots have made about 4 inches of growth. The second pinching takes place as soon as the second growth, which springs from the axils of the two leaves first operated on, is about 2 inches in length, and is described by writers treating of M. Grin's system, as leaving untouched the first leaf, or even the first pair of leaves when they spring together, of the second growth—that is to say, that the second pinching is to one more leaf. M. Grin, however, repudiates this plan, and expressly states that he has made many trials, and that if even one leaf be left at the second pinching, the second growth being vertical, and made at the moment of the strongest summer sap, its strength is such that a strong shoot is the result, which prejudices the development and maturity of next year's crop.

"These severe operations have for object to suspend, for a time at least, the vegetation of the latent eyes, and to hinder their becoming wood-shoots. Thus, during a certain time, the whole action of the sap is directed to the nourishment of the eyes at the base of the spur, so as to strengthen them, and to produce cluster spurs in the following season." It is also clear that this very close second pinching leaves little scope for the production of a third growth, also described by the writers in question as requiring a fresh pinching-back to one leaf more.

Be this as it may, my present object is rather to show how essentially different this, the original theory, was, and has ever continued to be, from the old-established forms of long pruning. It is a little revolution of itself, has attracted much attention, and is gaining ground daily. Not only in the case of Peach trees, but to other fruits and vegetables is it applicable. For orchard-houses there can be no system equal to it. Carried out with a due regard to locality and other circumstances, it must prevail eventually, and supersede all others.

What has been stated in this article comprehends the latest development of this system, now a generation old, and always advancing without having much to retract. As was said before, the author desired it to be known at present in this form, and some ten years of personal trial have convinced me that it is sound and practical. All that I should, therefore, venture to suggest would be a modified form suited to the wants of our climate, which will be the subject of my next communication. —T. C. BURNETT, *Richmond House, Guernsey*.

### PEARS WHICH SUCCEED IN THE NORTH OF ENGLAND.

If the experience which I have gained in Pear culture on a very limited scale in the north be of any utility to your correspondent it is at his service. My small garden is on the south-west of the town (Darlington), and very dry. I rarely sustain injury from frost, but am exposed to and suffer from winds ranging from N.W. to N.E., though I have a wall to the north. My garden is about a mile north of the Tees, and the district, I should say, possesses a good climate for its latitude; indeed, the vale of Tees is both warm and fertile. In 1857 or 1858 I saw a bunch of Grapes (Black Hamburgh), weighing 2½ lbs., cut from a Vine on a flued wall, with no glass or any protection except thin canvass.

I find some Pears, which with me require a wall, do well otherwise at a very short distance from me. For instance: to-day I saw on a wire trellis a fine crop of *Beurré d'Arenberg*, of which I never could obtain good fruit from a trellis; it is

the same with *Beurré Diel*, though in the lower part of the town it does well as a standard.

I grow the following, all on quince stocks, as standards:—*Williams's Bon Chrétien*, *Louise Bonne*, *Beurré d'Amanlis*, *Doyenné d'Été*, *Seckle*, the latter I have only just obtained, but the others yield fine fruit; on a wire trellis *Joséphine de Malines*, *Comte de Lamy*, *Williams's Bon Chrétien*, *Beurré de Capiaumont*, and *Marie Louise*. These usually do well; the bloom of the latter was destroyed by a wet cold week in May this year, and I think of putting it against a wall.

I have not been able to fruit as standards or on trellises *Beurré d'Aremberg*, *Beurré Diel*, *Winter Nelis*, *Glon Morecan*, and have put them against the wall. *Doyenné Defais* and *Doyenné Robin* are also useless as standards, and I shall discard them. On the wall, besides those mentioned, I have *Jargonelle*, *Marie Louise*, and *Chauumontel* grafted or budded on a Summer Portugal; they usually do well, as also *Louise Bonne de Jersey*: I have gathered some fine fruit off it to-day. I am told *Doyenné Gris* and *Beurré Superfin* do well as standards, I have not seen them. *Uredale's St. Germain* is very fine this year on a trellis. *Easter Beurré* does well as a standard or on a trellis.

Of course, all the commoner Pears, such as *Hessle*, &c., are plentiful. Many other fine ones do well, but I only speak of those which I have proved, or know to be successful from those on whom I can depend.—A. Z.

## KITCHEN GARDENING.

AUGUST.

THE chief work of the kitchen gardener during this month should consist in removing every crop that is done with, or that can possibly be spared, in preparing the ground for crops for winter use, and planting or sowing these. In the first place, the Onions may be pulled up; and after they are properly dried and stored the ground which they occupied should have a heavy dressing of well-rotted manure, and be prepared for the winter Spinach by digging it one spit and a crumb deep—that is, shovelling each trench out, and laying the soil on the top of the last-turned spit, so that the ground lies light and dry, and is some 2 or 3 inches deeper than it would be by ordinary digging. I think that the after-well-doing of the Spinach will repay a little extra trouble before sowing, which should be done some time this month when the ground is in good working order.

The first lot of Turnips will no doubt be up by this time, and should receive attention as to cleaning, thinning-out, &c.; and as it will be time to sow a bed for winter use, the rows of *Bedman's Imperial* Peas may be taken up, as the *Champion* of England will be in by this time, and the Potatoes which were planted between the rows should be taken up, if this has not been already done. After preparing the ground previously occupied by the above crops by manuring and digging, it should at once be sown with *White Stone Turnip*. The first lot of *Scarlet Runners* being removed, the ground between the rows of winter stuff should be forked, laying the earth to the stems of the plants. The *Brussels Sprouts*, *Broccoli*, and *Savoys* should likewise receive the same attention, but previous to so doing the plants should be thoroughly cleared of the fly, which at this season often attacks them in this locality. It has been very troublesome this season. The only effectual remedy that I find for it is to set a sharp-eyed lad, with an ordinary painter's brush, to remove the greater part of the insects from the plants, and then to water overhead with soot water. This operation, and the moving the ground between the rows, will give the crops such a start that they will need no farther attention till they are fit for use.

The first row of Celery should receive its final watering of liquid manure, and be earthed-up about halfway. With regard to the successional trenches, a good soaking of liquid manure about twice a-week will keep them all right. What I term a good soaking is allowing fifty gallons of water to thirty yards of trench. If the weather is at all dry, it is a very good plan, after watering, to draw a little earth to the plants to retain the moisture. A bed of Leeks should be planted at once, if not done before, as they are a first-rate vegetable when properly grown, and often come in very useful in the ensuing spring. The last sowing of Dwarf Kidney Beans, as soon as fairly up, should receive attention as to watering and earthing-up, for to be of any use they must be grown quickly at this time of year; in fact, if they are not well managed at this time they had

better not be sown at all. The crop of these now in bearing between the rows of late Celery, if the weather be at all dry, will scarcely be worth gathering, as the pods will be tough and stringy. Whether such be the case or not, they will have to be removed towards the end of this month or the beginning of next; so that the better plan is to look well after the last sowings of Dwarf Kidney Beans, *Scarlet Runners*, and late Peas; also attend well to the beds of Vegetable Marrows and Mushrooms where the latter are grown.

About the middle of the month sowings should be made of Cauliflower, Cabbages, and a small bed of winter Onions. The early Coleworts should have the earth drawn to them with a flat hoe, not forgetting to keep the latter very busy among the weeds. For salading there will be Lettuce and Cucumbers, and the *Batavian Endive* will by this time be ready for blanching, by inverting pots over it, or tying it in the same way as Lettuce when small; and as the ground on which the second crop of Dwarf Kidney Beans was grown will be at liberty, it should be heavily manured and deeply dug, remembering that the same piece of ground has produced a crop of Coleworts or Savoys, succeeded by spring Spinach, and lastly Kidney Beans, in one season. For the fourth crop I think it deserves to be well prepared; and when this has been done it should on the first showery day be planted with the main crop of Curled and Smooth-leaved Endive, and a row or two of Hardy Hammersmith Lettuce. The Winter White Lettuce should be sown some time during the month, also a final sowing of Endive as a reserve in case of accident. Herbs should be cut and dried if required.—BURNWOOD, P. D.

(To be continued.)

## HAMILTON PALACE.

THAT there is something in a name is all but universally admitted, and it sometimes happens that a high-sounding name is all the merit of the object to which it is attached, and yet that name is maintained simply because the public do not care to look into the matter; but where it happens that a name calls up associations from which something more than usual is expected, honest John Bull is displeased when his nomenclature is unfairly used. It is, therefore, with no ordinary feeling of respect that we approach a residence to which the word "castle" is attached. Our ideas of a bygone age are called up, and we wonder, while approaching its portals, how many generations of retainers of the occupiers of the venerable pile have traversed that road before us, and possibly now and then hostile bands as well, leaving enduring traces of ruin and desolation behind them. Feelings of this and a kindred nature are entertained when we approach a residence erected on or near the sites of one of those ancient fortresses; but such feelings we do not entertain when the building we are approaching assumes the more peaceful character of hall, grange, lodge, or villa in addition to the local appellation. The word "abbey" calls up feelings of another kind, carrying us back to an equally distant age with the more warlike castle. These terms, indicative as they are of being the homes of the highest gentry of the land, are nevertheless in themselves a grade lower than one adixed to the house of the highest Scottish peer whose residence, *Hamilton Palace*, I shall here attempt to describe. The appellation "palace" certainly carries with it the idea of its having been the residence of royalty; expectation accordingly is raised on approaching it, and something noble or grand is expected, and in the present case the traveller will find his anticipations fully justified by the grandeur of the place he visits.

*Hamilton Palace*, the residence of the Premier Duke of Scotland, is pleasantly situated on gentle rising ground in the midst of a park of vast dimensions, stretching in all directions to a great distance, and varied by all those happy features which alike give dignity and beauty to the landscape. Finely undulated, well timbered, and having a river of considerable importance running through it, it has in itself some claim to the royal dignity which the name of the mansion implies. Rich pasture land, with grass knee deep, occupies the slopes and levels, while steep declivities fringing the sides of streams and rivers are clothed with trees and bushes appropriate to such inaccessible places, and now and then high precipitous rocks frown with all their natural majesty over some chasm or waterfall. These features, be it understood, are not the general ones of the park; for it is not placed in the midst of Highland scenery, but occupies some of the richest land in the



valley of the Avon; but that stream at places presents precipitous banks 150 or more feet in depth, while at other places it meanders forth slowly amongst lovely meadows, its clear stream spreading out into all the dimensions of the Thames at Kew, or even wider, while its tributaries intersect the park in other directions, leaving, nevertheless, a large breadth of table land stretching away to the northward of the mansion, on the more distant part of which is planted a fine avenue. First of all let us approach the mansion, and if we do so on this side there is no need to trespass on the grass edging for want of room on the gravel walk, for I believe it to be 48 feet wide, and not a foot too much to correspond with the other noble features of the place. I fear that I cannot give an adequate description of the mansion, which, like many others of its class, strikes the looker-on more by its vastness, and the richness of its architectural decorations, than by any particular feature in its structure. It is a noble pile of the best style of architecture prevailing in the end of the seventeenth century, and suggestive of internal magnificence and comfort rather than of feudal tyranny, as in the oldest class of baronial residences. The immensity of its proportions, the character of the site, and the extent of its appendages, all combine to produce that grandeur which would justify the mansion being styled a palace, even had it not a claim of ancient date to that title.

Leaving historical associations for the present, I will confine myself to stating that this noble residence is a building of decorated Grecian architecture, and of great extent, the central front receding behind the wings, and the whole occupying a sufficiently elevated position in the park to command an extensive range of country, without at the same time being unduly exposed. The Vale of the Clyde, terminating in that busy hive of industry Glasgow, may be traced throughout most of its length, and far beyond the brown peaks of some of the Highland mountains come into view, while the softened and undulating character of the country in the opposite direction, conveys an idea of rural comfort and progress which is not in any way marred by the presence of factory chimneys. The pleasant village, or rather town, of Hamilton, adjoining the upper part of the park, improves rather than intrudes on the general effect. The mansion, as I have before observed, occupying a sort of central position in a park of some 4000 acres or more, is, of course, sufficiently removed from everything likely to obtrude on its privacy, at the same time the presence of trees in sites judiciously chosen gives it a clothed appearance without being encumbered with wood. Looking from the mansion in a northerly direction, a handsome terrace and steps lead to a gentle slope at some considerable distance, and passing along a gravel walk, 48 feet wide, we reach another walk or road crossing this at right angles. From their point of intersection a vista or avenue follows the line of the broad walk; this avenue, which appeared to be at least 1000 yards long, was level throughout, and of more ample width than avenues usually are, I should say about 250 or 300 feet, and there were two or three lines of trees on each side. I forgot the object to which this avenue leads, but its length and ample breadth give it importance irrespective of external objects, and when seen from the mansion as a continuation of the broad gravel walk it has a noble effect.

The cross walk, which terminates the broad one alluded to, points to the mausoleum, a wonderful pile, erected by the late Duke at great cost, and which in its way has perhaps no equal in the kingdom. Its external appearance reminds one of those magnificent temples erected by some eastern potentate to the memory of a deceased relative, and I believe the design is from some such source. It is solid, massive, and grand, rather than enriched with architectural devices externally, and the mind is still further impressed with the sublimity of the interior by the echoes rising in successive reverberations to the apex of the cupola by which it is surmounted. The floor of the main building is of various coloured marbles worked into suitable designs, while underneath is the vault, approached in a contrary direction, wherein are deposited the remains of many of the noble house of Hamilton, who had figured in the many changes which have occurred during the last four or five centuries, including one or two members of the house who met with violent deaths for their loyalty or patriotism. Returning from such a scene, and passing some good examples of sculpture fronting the portals of the departed, we take a stroll to another part of the park, anxious to see all its features before we settle down to the garden department.—J. ROBSON.

(To be continued.)

## GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 6.

It is a very pleasant task to connect with a flowery link ancient and modern Rome—to remember that the "Lilies of the field," about which I write, have suffered no change since they came fresh and fair from the hands of the Creator—that kings, consuls, emperors, and popes have alike felt their gentle ministrations; learning from them, if they were so minded, the selfsame lessons of humility and purity—to know that when this generation shall have passed away the same tiny wayside flowers will lift up their heads in storm and sunshine preaching the same lessons still.

From the state of the few gardens I saw at Rome I should say that horticulture, as a science, was little practised there. Wishing for some local information about the plants I met with, I asked if there was any professor of botany in Rome? I was answered, and I believe with truth, that there was not one! that I must wait till I arrived in Florence for any help of that kind; so I could do little more than gather anything strange-looking to my English eyes, put it in my blotting-book, and wait. My patience was rewarded at Florence, for, through the kindness of a friend, I had my specimens named for me by Professor Parlatore on De Candolle's system; for those plants which Professor Parlatore did not see I have availed myself of other help as able as his own, but I needed no professor to name for me the treasures that I most love amongst my little Roman collection. I have about a dozen healthy plants of *Adiantum capillus-Veneris* daily increasing in size and beauty, and each time my eye falls upon them it sees an old crumbling wall within the inner court of the church of St. Pudenziana, and I am standing before it in a helpless manner, gazing on the fair tresses of a Fern on which, it may be, eighteen hundred years ago the eyes of St. Peter and St. Paul rested lovingly as mine do. My gaze was a troubled one, for I was out hunt ng for churches not flowers, and my trowel was left at home; at last I bethought me of a certain knife given me just before leaving home as "the best knife in England," and in a few minutes two blades had been sacrificed, but not in vain, for I secured a tolerable plunder, and the little Ferns grace my fernery in forgiving beauty. While I was thus engaged, the rest of my party had been peering into a well, covered with a grating and full of bones, said to be the bones of Christian martyrs, gathered together by the love of the Saint whose name the church bears.

There is no church in Rome that exceeds in interest that of St. Pudenziana—tradition, history, and recent excavations lend their aid to give it a charm in the eyes of Englishmen as well as Romans, history coming to the aid of tradition with dates and circumstantial evidence, and the excavations stamping both with the seal of truth. Tradition points out this church as having been built A.D. 145 by Pope Pius I. on the site of the house occupied by the Senator Pudens, who entertained St. Peter from A.D. 41 to 50. History speaks of Noatus and Timotheus, sons of Pudens, building baths on the site of their father's house. St. Paul, writing from Rome A.D. 66 (2 Tim. iv. 21), says, "Eubulus greeteth thee, and Pudens, and Linus, and Claudia, and all the brethren." Claudia was the wife of Pudens, and tradition speaks of her as being the daughter of the British chief Caractacus. History again tells us that about the year A.D. 51 the wife and daughter of Caractacus were taken captive by the Romans, to whom the prince himself was delivered up by the queen of the Brigantes; we read also that the unbroken spirit and noble demeanour of Caractacus when taken to Rome commanded the admiration of the Emperor Claudius, who pardoned him. Modern excavations are going on beneath the present church, and every turn of the pick and spade brings something of interest to light.

1st, The remains of a much earlier church than the upper one, the peculiar structure of the masonry of the walls proving the date pretty accurately.

2nd, Below this ancient church the house of the Senator Pudens—that is, a house of considerable pretensions, with inlaid marble floors, such as would be suitable to the rank of Pudens in those grand days of old.

3rd, Added to this house are to be seen the remains of noble *ba hs*.

The excavations have only been undertaken very lately, and it was no easy matter to search out these things for ourselves; no earth had been allowed to be removed, and we had to stumble over heaps of soil, with here and there a ghastly-looking skull, and only the feeble light of our candle to prevent

our falling into deep holes, or knocking our heads against the very roof that had sheltered St. Peter and St. Paul.

How interesting these excavations are I could never tell; how full of hallowed interest, to tread where the peaceful foot-prints of Apostles were once heard, as they passed to and fro in the sunshine of the dear human love that ever fell on them in this house; did they, I wonder, cast a pleased eye on my little Fern, remembering the Voice they loved so well, which had hidden them "consider the lilies of the field," a Voice that spoke to the one on earth and to the other from heaven?

Vying in its exceeding interest with the church of St. Pudenziana is that of St. Maria in Via Latè. Tradition points to the subterranean chapel beneath St. Maria as having been an oratory formed by St. Martial (one of the immediate disciples of our Lord) in the "hired house" in which St. Paul dwelt two years, which at different times sheltered both St. Peter and St. Luke, and from whence St. Peter and St. Paul were led to the Mamertine prison. This sacred tradition is supported in part by history. The walls of the oratory are of large blocks of quadrate travertine, which a well-supported theory refers to the structure of the Septa Julia *n.c.* 26. In part of this extensive edifice St. Martial is said to have lived—it is a matter of history that he was sent by St. Peter to preach the gospel at Ravenna, when he is supposed to have left the Apostles residing in his house. The oratory with the huge stone blocks is there; within its sacred precincts there is an altar of very ancient inlaid coloured stonework, while upon the walls are faded frescoes of early art referring to these events, and cold indeed must be the heart that does not thrill with emotion when standing on the spot where the blessed Apostles of the Lord lived, and thought, and prayed.

It is a happy thing when history and tradition go hand in hand, for when they are at variance it is very perplexing. For instance, when visiting the Mamertine prison you see in the horrible gloom of the frightful abode (the only entrance to which was by a hole in the centre of the roof, through which prisoners were let down, seldom to return to the light of day) a well, which you are informed sprung up miraculously at the command of St. Peter to enable him to baptise his jailors—you long to believe in this beautiful tradition, it may be you touch the cool water of the spring and with it make a sign upon your brow, but history comes with its disenchanting wand, and tells you that 101 years before Christ this spring was spoken of by Jugurtha, who perished in the cell.

On our way from these gloomy subterranean places to revel once more amidst Nature's loveliness in the Villa Wolkonski, we stopped for a few minutes to watch the kneeling penitents ascending the Scala Santa—those stairs, said to have been brought from Pilate's house at Jerusalem and to have been trodden by the feet of the Saviour, were filled by a motley assembly making their weary pilgrimage to the top; some of these were dressed as for a bridal, all of them had a gala look which visibly altered before they were half way up the stairs; the penitents have to stop three times to kiss the *rotas* or sacred stones, and the effect was peculiar in the extreme, particularly when the penitents happened to be stout, or to be in a hurry.

There could scarcely be a pleasanter garden for a lounge than that of the Villa Wolkonski, where Violets of the bluest were to be had by the basketful for the gathering, and where many a wild-flower specimen may be gathered while scrambling up and down one of those grand old aqueducts that stride like giants over the vast campagna; and where, sitting in the sunshine, I could look far away on the snow-capped Alban hills, with the villages of Frascati and Tivoli lying at their glittering feet; or I could rest my eyes on the nearer beauty of the three lines of aqueducts, visible from the Villa; and, as I sat, I could stretch out my hand and gather specimens of *Erodium romanum* (contrasting it with the *Erodium cicutarium* of our own banks, to which it bears much resemblance, save that the flower-stem rises from the root instead of from the stalk), of *Neseda odorata*, *Muscari comosum* and *racemosum*, with many others passed away from my memory, for I gave my bouquet to a friend.

The flower garden was, to my English eyes, very untidy and badly cultivated; the flowers small, and the plants allowed to grow after their own wild fashion, with many a weed trailing amongst them; yet how lovely it was! with the ruined aqueduct passing through the garden, with dripping fountains reflecting Maiden-hair in their clear waters, with boughs laden with Oranges resting their weight against the broken stone;

while rolling in the distance was the sound of many carriages conveying the "beauty and fashion," of not only Rome but of England and America, to witness the English races held on the almost sacred ground of the Campagna.—*PILIX-FEMINA.*

## ESPERIONE AND MUSCADINE GRAPE WINES.

(Continued from page 259.)

My Esperione wine of 1863 I allowed to become a claret. I neither sulphured nor used finings, but allowed the fermentation to take its natural course down to  $W^{\circ}$ ; it was then racked off, and brought up to a gravity of  $2^{\circ}$  by the addition of about 4 lbs. of dissolved sugarandy. The saccharometer will now float in it at  $W^{\circ}$ ; and it has been pronounced to be, by an M.D., "an excellent dry wine." This wine is intended to be used next year.

1864.

### MUSCADINE WINE.

To make nine gallons of Muscadine champagne. Weight of fruit and quantities the same as given in the Esperione wine digest. October 6th, gathered Royal Muscadine Grapes, saccharometer in pure juice  $22^{\circ}$ ; after adding the two gallons of water to the must, saccharometer  $14^{\circ}$ ; 8th, saccharometer  $15^{\circ}$ ; 9th, saccharometer  $15^{\circ}$ ; 10th, saccharometer  $15^{\circ}$ . Pressed off juice; added water of the temperature of  $80^{\circ}$  to the skins and pips, well stirred, and pressed off; saccharometer in this washing  $4^{\circ}$ . Put it with the premier quantity, and the saccharometer floated at  $12\frac{1}{2}^{\circ}$ . Allowed  $3\frac{1}{2}$  lbs. of loaf sugar per gallon (no honey), saccharometer  $46^{\circ}$ . October 13th, saccharometer  $37^{\circ}$ ; 14th, saccharometer  $35^{\circ}$ ; 15th, saccharometer  $30^{\circ}$ ; 16th, saccharometer  $28^{\circ}$ ; 17th, saccharometer  $25^{\circ}$ ; 18th, saccharometer  $23^{\circ}$ . Took the wine from the working-pan in the kitchen into the cellar, and filled cask and gallon stone bottle. October 27th, saccharometer at bung-hole  $15^{\circ}$ ; 30th, saccharometer  $12^{\circ}$ . November 4th, saccharometer  $10^{\circ}$ ; racked, sulphured, and used finings. January 7th, saccharometer  $6^{\circ}$ . Racked again simply, and brought saccharometer up to  $7^{\circ}$ , with 2 or 3 lbs. of loaf sugar dissolved in some of the wine from the gallon bottle. March 9th, saccharometer  $6\frac{1}{2}^{\circ}$ . Bottled the wine, wired down the corks, and laid the bottles in a recumbent position. June, 1865, an effervescing wine; sparkling; of a fine, bright, straw colour—a wine, as all wines should be, pleasing to the eye. My Muscadine of 1863 I allowed to become attenuated down to  $4^{\circ}$  by bottling-time, at the beginning of the following month of March; it is, however, an effervescing dryish wine, with a fine sparkle and colour, and it drinks "nearly as soft as cream." The Muscadine of 1861 I allowed to attenuate itself as much as it would. It has become quite a hock.

While the above was going on I was on the outlook to purchase champagne-bottles of both sizes in the cheapest market. I have usually bought them for less than 1s. per dozen, and they ought always to be obtained second-hand for that price when they require washing. This should be done by warming water, and casting in some soda when the bottles are laid to soak. Two or three ounces of shot successively passed into each bottle through a funnel will greatly facilitate cleaning. Rinse the bottles in clean water, and turn them upside down to drain dry. It takes a gallon of wine to fill six large champagne-bottles. The best champagne-corks should be procured, and a bundle of galvanised bottling-wire, with a cork-presser, will be found necessary adjuncts. A fortnight or so previous to bottling prove the clearness of the wine either with a syphon from the bung-hole, or by drawing a pint or so off from the tasting-peg-hole. If the wine prove fine all well, otherwise use finings after the manner already explained; or, if greater expedition be necessary, cover over the mouth of the jug containing the isinglass and pint of wine with a cloth, and place it in a basin of hottish water on a warm hob; this will hasten the dissolving process. I draw off the wine from the cask after the mode I adopt for racking, and the bottles are simply filled by jug and funnel to within 3 inches of the mouth. Dip each cork in a little of the wine, press it if too large, and drive it in firmly and carefully with the mallet to two-thirds of its length. Examine a wired cork in a soda-water bottle before corking, as it is quite necessary that our corks should become so secured. When corked the bottles should be placed in the cellar, in an equable temperature of  $50^{\circ}$ , recumbent, and having the date of the wine ticketed legibly over them. If I may judge by my own, this champagne may be kept for an indefinite period.

A few days more of such hot weather as we have lately ex-



perienced, and my Grapes will fall into the pannier, ripe and gushing, to become speedily transformed into bruised unsightly must, and undergo those subtle changes so anxiously watched, in order to become an exhilarating beverage. There is an adage which says, "They are clothed who live in sunshine, rich enough if the Grapes but grow." Perhaps that is the aim of the English company we read of in the "Daily Telegraph," August 12th, which has "just purchased for ten years the produce of the famous vineyard near Bordeaux called Château Margaux. National prejudice accuses the proprietors of a want of patriotism, since, it is said, the French will now be obliged to purchase their wine in England. There will, however, be no need of that. The wine-makers in the south are clever enough to find out some means of giving the real 'bouquet' of claret to ordinary wines. In fact, that is already done. According to the Customs returns of the Zollverein, no less than 4,500,000 bottles of Bordeaux of first-rate quality have been imported into the treaty States. Now, I should like to know how much claret is drunk in France if that be true, since all the slopes of the Gironde, good, bad, and indifferent, would never produce nearly that quantity." Like to know! Yes, and so should I, whether many of the wines sent to us do not more or less partake of the nature of those American wines which were exposed by Dr. Hiram Cox, of Cincinnati, in 1856. The Doctor wrote, "I analysed a lot of liquors for some conscientious gentlemen of our city, who would not permit me to take samples to my office, but insisted on my bringing my chemicals and apparatus to their store that they might see the operation. I accordingly repaired to their store, and analysed samples of sixteen different lots. Among them were port wine, sherry wine, and Madeira wine. The distilled liquors were some pure, and some vile pernicious imitations; but the wines had not one drop of the juice of the Grape! (the italics are my own). The basis of the port wine was diluted sulphuric acid coloured with elder-berry juice, with alum, sugar, and neutral spirits. The base of the sherry wine was a sort of pale malt, sulphuric acid, and bitter almond oil, with a per-centage of alcoholic spirits from brandy. The basis of the Madeira was a decoction of hops, with sulphuric acid, honey, spirit from Jamaica rum, &c. The same week, after analysing the above, and exhibiting the quality and character of the liquor to the proprietor, a sexton of one of our churches informed me that he had purchased a gallon of the above port wine to be used in the church, and that for this mixture of sulphuric acid, alum, and elder-berry juice he paid 2 dols. 75 cents a-gallon."

In the daily paper already quoted of August 24th there is a capital leader and an *exposé*, under the heading of "Champagne for the Million." "A chemist within the postal district has recently been purchasing low French white wine or sherry, with which the market is at present glutted. The operator places it in bottles of the orthodox shape, and submits it to the action of the soda-water machine, by which it is copiously charged with carbonic acid, giving it the required degree of effervescence, which of course disappears soon after the bottle is opened. A tinfoil capsule and an attractive label are then added, which render this exhilarating beverage fit for the market, where to our knowledge it has been sold and is now on offer." So return we to our home-made wine, the constituents of which we know, and which must have been largely produced by our forefathers, if we take the widely dispersed names of vineyard here, wine-clove there, &c. When the introduction of foreign wines, and the commerce and agriculture of the country improved, it was probably found that the ground could be more profitably employed for other purposes; but how many thousand acres of the surface of bare walls could now be made useful and ornamental by means of excellent wine-making Grapes? Think of the loss to the nation through so much unproductive surface! If I can produce in a cold ungenial situation, from 700 square feet of house frontage, enough Grapes to make twenty gallons of pure wine annually, given the genial house frontage of half England only for an answer. It is a calculation truly worth working out—in casks. It would prove at any rate a grateful beverage to many who cannot afford to use foreign wines in their families; and I know many of those who visit here always prefer my Grape wines to sherry or port at table. I am not writing for rich people, to whom these home growths may scarcely appear worth a consideration, upon the principle or prejudice that no wines can be good which are not foreign and do not cost a great deal of money; but how many of us are there who are not overburdened with riches, and yet have satisfaction in knowing

and partaking of what our own country is capable of producing? I myself am one of the latter class, and accordingly I intend to follow up this manufacture of Grape wines as being both needful and convenient, and likely to contribute to the comforts of those about me.—UPWARDS AND ONWARDS.

## A PEEP AT THE WOODS IN ODD PLACES.

### No. 1.

#### THE LIVE OAK, DWARF OAK, AND PITCH PINE.

IN the month of September, 1864, I found myself one afternoon in the United States Navy Yard, at Pensacola, Florida, and just about starting for a walk, or rather wade through the sand of that curious district. I may at once state that all the land in the immediate neighbourhood of this navy yard, and I believe, though I cannot speak from experience of the interior of this portion of Florida, and, indeed, to my own knowledge of the sea coast generally of the Mexican Gulf, is composed of sand produced by the breaking down of coral, and thus this minute insect has laboured in the formation of a coast extending upwards of one thousand miles. Thus we see how wonderfully the minutest and most insignificant creature is raised to an important position by the omniscience of the Creator, teaching us that however lofty our own position may be, we must not look down upon, or despise as of no importance the very smallest particle in creation.

But let us turn from the sand and try to gain some idea of the various and exquisite forms springing from it, I refer to the plants and trees; and we will as we walk from the hospital in the Navy Yard to the nigger camp on the Lagoon, take a passing glance at some of the most prominent beauties. Having descended the steps and come out into the boiling sun from under the piazza surrounding the building, my eye is attracted by the instantaneous transition of some small object from the upper rail of the fence running along the walk, on to the leaves of a large Aloe growing near it. I approach as gently and noiselessly as possible, and much to my surprise and delight fall upon a complete small menagerie. Picture to yourself an unlimited number of small eyes, the extraordinary brilliancy of which, with their opalescent changes, no words can depict, each pair of these belonging to a lovely little brown and bright green lizard, a small obese, phlegmatic, pale green, striped with darker green, tree toad, or an insect gentleman who bears the inelegant local soubriquet of the "Devil's riding horse." Truly his systematic and cold-blooded massacre of mosquitoes (for which God bless him and give him long life and health), house flies, even bees and wasps, and all other winged insect game, together with his evident enjoyment in their sudden destruction and sanguinary end, to be devoured by him, give the gentleman with this abominable name an unenviable claim on his master, without even taking into consideration his extraordinary form. He is entirely green, with six legs on his body, and two large folding gauze-like wings, a very large anterior thorax, to which are attached two enormously powerful long arms, covered with hairs in such a manner as to enable them to seize and hold with certainty his winged prey. On the top of the thorax is the extremely moveable head which is a perfect triangle, two of the angles of this are occupied by eyes, the third by a powerful pair of mandibles with which he quickly terminates the existence of his prey, and satisfies the cravings of his satanic maw. Master tree toad is also worthy of attention and careful watching, for he is an active and energetic little fellow, although spending his days—i.e., the hot hours of the day in indolence, motionless, and apparently lifeless, sitting in the shade upon some green leaf which on account of his colour forms an excellent hiding-place; yet when the long shadows of returning eve bespeak the close of the hot day, and the advent of the short moments of the semi-tropical twilight, he is seen issuing from his leafy covert to spring upon and devour at a gulp any luckless fly or other insect which may be suitable to his dainty palate. But although an active and quick little fellow, he must by no means be confounded with his elegant, sprightly, and beautiful little cousin, the Italian tree frog. Our friend is emphatically the tree toad, and to mistake the one for the other would be as difficult as to mistake the common frog with its enormous bounds on land, and elegance in the water, for the common toad with its repulsive slowness and crawling awkwardness of movement. My little lively friend the lizard, needs no further description, for his elegant form and lightning-like movements are familiar to every one acquainted



with our own pretty country lanes, and warm grassy woodland banks.

Leaving my little friends to enjoy life in the shade, I looked around for a little of the same comfort for my own person, and forthwith turned into a most delightful unbragous walk paved with brick, and arched over by an avenue of Evergreen Oak, called here Live Oak. This is a beautiful tree, varying in size from a large shrub to a forest tree 80 and even more feet high. The bark is a dark ash colour, but slightly fissured when compared with that of the Oaks generally. The head of such trees as grow by themselves is nearly globular, and the leaves, which are small, present a dark, shining, holly-like appearance; the fruit is also small, and not so prettily-shaped as the acorns of our own Oak; indeed, the whole tree lacks the nobility and grandeur of the British Oak. The timber, which is of two kinds or rather colours, called the white and red, is of great value for ship-building, and other purposes, where strength and durability are required, being a heavy, dense, tough, and durable wood, breaking with a stringy, fibrous fracture, and capable of bearing a great strain; but it has the serious disadvantage of being subject to dry rot, which greatly lessens its value.

Having proceeded some distance down this avenue I turned aside again into the sun to pluck a flower growing very nearly upon the sand, it was of a sweet bluish pink colour, and I quickly stooped to seize my prize, but to my sorrow at once discovered that if there be "no Rose without its thorn," the saying holds equally good in the case of the Caeti, and having learnt wisdom by experience, and paid for my momentary forgetfulness of their nature by half a dozen pretty deep and acutely painful punctures from the sharp spines of this individual plant, I carefully gathered the flower, and, like the bear with the honey, growlingly bore off my prize, and not much of a one either, for ere I had walked half an hour in the blazing sun the poor beauty had perished and withered away, and was then cast aside as useless, being like many another beauty possessed of that evanescent charm alone, with no sweet scent or inward virtue to recommend it after its one single merit of external loveliness had passed away.

Having passed from the Navy Yard through the straggling town, or rather village, adjoining it, I came to a road through a quantity of scrub and timber of various sizes, kinds, and dimensions—came to a road, no, not quite, 'tis a slight *lapis calami*, for even I, acquainted as I am with the roads of all parts of the world, could hardly feel justified in calling a space between the bushes cut up in every conceivable manner by wheels, horses, pigs, and cattle, in some places knee deep in sand, in others the same in a mixture of sand, leaf mould, and water, by the lofty title of a road. Still, why find fault with that track? no doubt it answered Uncle Sam's soldiers just as well for their traffic between the village and camp as the very best road in all Europe could have done; but I feel satisfied that few lovers of the picturesque would not have been as unreasonable as myself, in loudly denouncing Uncle Sam and his nephews, for tolerating such a nuisance, though nothing could possibly exceed in picturesque beauty the road and its frequenters. One of the scenes upon it would have particularly struck the eye of a painter, had any such been present to see it. By the side of a pure crystal stream, which crossed the track, and is in turn spanned by a rustic wooden bridge, stood a pretty well-house formed of strong rough timber with an over-hanging roof built something after the Swiss fashion, and shaded by noble trees of various kinds, one in particular being noticeable on account of its waxy-looking foliage, in striking contrast with the Pitch Pine's needle-like leaves, and the Cotton-wood's soft-looking boughs; it is the Bay tree, and grows to the height of 80 or 100 feet, being of singular beauty and grandeur. Around on all sides are flowers of the most brilliant hues, from snow white to bright gamboge and brilliant scarlet, intermingled with lovely blues and delicate greens; in fact, all the varied and exquisite colours in which Flora delights to bedeck her children. Amidst all this lavish display of Nature's beauties, within and around the well-house, sat or stood groups of United States' soldiers in uniforms war-worn and stained, and scarcely recognisable as such, they and their horses looking alike lean and dirty, and reminding one far more of a set of bandits than soldiers fighting for their country's existence; still they looked very picturesque, and no one on viewing them if previously unacquainted with the neighbourhood would have imagined that the men who sat there laughing, joking, and smoking, whilst they gossiped and watered their horses, were constantly on the *qui vive* for an active and energetic enemy, who might momentarily make an attack, and whose advanced

posts were, as the crow flies, within a mile and a half of that very spot, and within five hundred yards of their own pickets, and seldom an hour passing without the compliment of a rifle shot being exchanged.

Let us push on, however, and leave our picturesque but unpleasant neighbours, for we shall find something by going a little further, which I think will interest us more. Having walked through the camp of a white infantry regiment, we come to the edge of a small chapparal or flat plain, grown over with Dwarf Oak. In the middle of this rises an old Portuguese fort once considered of great consequence, being reckoned impregnable. It now belongs to the Americans, having as they assert been bought by them between forty and fifty years ago, it is called Fort Barramas, and is one of the defences of Pensacola Harbour. The Dwarf Oak of these chapparals seldom grows taller than 12 or 14 feet high, sometimes as little well-formed trees, but far more often as shapeless bushes, being frequently so closely crowded together as to render it utterly impossible to follow the trail, either of man or beast, and many even of the most experienced hunters and Indians will sooner skirt an Oak chapparal (which in some parts of America, as in Texas, Sonora, and Mexico, is of such a size as to require hours, and sometimes days to cross), than attempt to cross it, as where this Oak is found it is principally loose, sandy soil, destitute of water or game. The best idea I can give of this Oak itself, is to recommend those who wish for its likeness to go and look at the stump of some Oak which has been felled about two years, and from which the young shoots have been allowed to spring, these with their large leaves will at the end of the summer give some notion of the Dwarf Oak.

Going on a little further and passing by a bit of swamp caused by the overflowing of the Lagoon, where grows in great abundance a very curious and beautiful Pitcher-plant, we will bend our steps towards that elevated ground on which we see growing those fine straight trees. Ah! here we have something to interest us, for the tree before us is the valuable, I had almost said invaluable, Pitch Pine, which forms so large a portion of the wealth of some of the Southern States, and which has been so wantonly, recklessly, and absurdly cut down and destroyed, both prior to, and during this late American war. The Pitch Pine is a noble tree, straight and boughless save at, and near the crown, varying in height from 60 to 130 or 140 feet, and seems to grow like other Pines in belts, a few hundred yards on either side of which it will be almost impossible to find a specimen. The timber of this tree is the hardest and most durable of the Pine tribe, and like the tree itself, goes by the name of Pitch Pine. It is very heavy but tough, elastic, and extraordinarily durable, pieces of it containing much resin being more lasting than even Elm, Oak, or Teak. When planed and clear of knots its appearance is very beautiful, looking like a collection of orange and pale yellow ribbons. It is used extensively for the spars and masts of ships, though on account of its great weight and straight grain it is not equal for this purpose to the Cowrie Pine of New Zealand, which stands alone as spar timber. It is also most valuable for decks and ship-building purposes generally; but its value does not cease here. Before being cut down for timber the tree is made to yield articles of still greater cost than the timber—viz., turpentine and resin, the market value of both of which is now so enormously high; for the sources from which England, and, in fact, the world was to a great extent supplied, have during the last four years been checked and almost extinguished by the lamentable civil war of America, and it will require years for this branch of commerce to recover itself, if, indeed, it ever does, about which many competent judges seem doubtful. Most trees will bear several tappings for the purpose of obtaining the juice, and the process is roughly as follows:—A hole is bored into the stem of each tree, from this the rough turpentine flows and is caught in vessels placed to receive it. This juice is then carried away to a kind of still and boiled, the part evaporated being preserved, and after being further purified sold under the name of turps, oil of turpentine, or spirits of turpentine, the residue after being allowed to cool and concreted, being the valuable substance known as resin. Tar and pitch are likewise obtained from the roots of this tree. Some idea may be formed of the importance of the tree in some of the Southern States, when I inform the reader, that I was told by an American officer that he was present at the destruction of, in one place alone, over a million and a half barrels of resin which had been placed at a station ready for transmission by railway, and I have every reason to credit the statement.—A SURGEON.



## CULTIVATION OF THE FIG.

THE dimensions of a Fig-house need not be large; 30 feet by 18 feet will mostly be ample provision for the growth of Figs for a large family. In form it may be either a lean-to, span, or half-span. Beneath are end sections of these forms of Fig-houses.

*Fig. 1* is an ordinary lean-to Fig-house, with a narrow border in front for dwarf plants; a centre pit or bed affording room

grown under glass. Not only the sides, back, front, and centre should be made use of, but the ends also; but if the house is covered with Vines, and trees are in the central pit, then it would be better if the ends were not occupied with Fig trees, for the light transmitted through the ends is of vast importance to the trees beneath the Vines. Our house, whatever form it may be of, is for the growth of Figs, and would be best kept

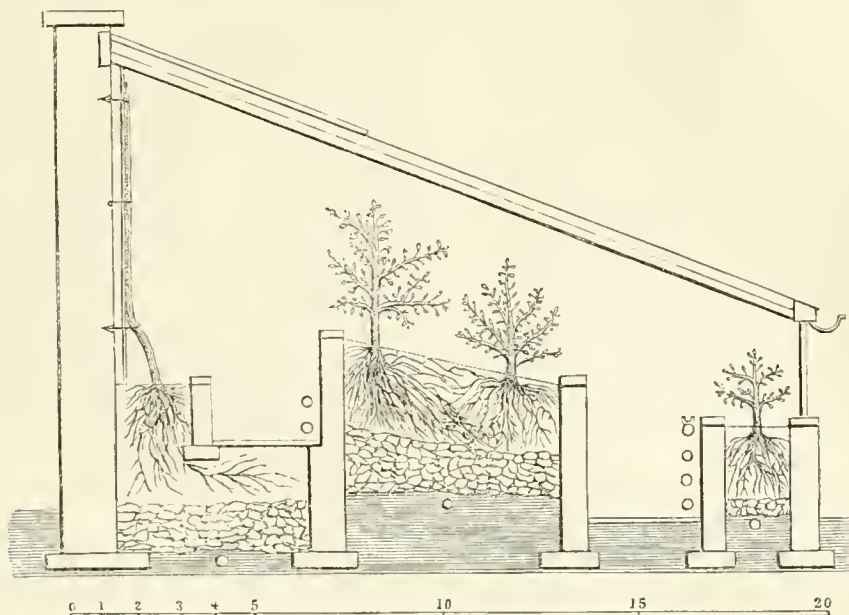


Fig. 1.

for bush trees, and a border at back for trees trained to a trellis against the back wall.

*Fig. 2* is a span-roofed Fig-house with two narrow borders along each side, and a central one, occupied with a row of standards on three-foot stems, and a row of dwarfs on foot stems on each side of the standards. The outside borders are for bushes.

*Fig. 3* is a half-span-roofed Fig-house, little differing from those represented in *figs. 1* and *2*, there being a border in front for dwarfs either in pots or planted out, a bed in the centre for a line of dwarf and standard trees, and a narrow border at back for trees to be trained to a trellis against the back wall.

In all the houses the borders are narrow, and well drained. The front and back borders are 2 feet wide, and about 3 feet deep, and the central ones 6 feet in width, and of similar depth to the side borders. Beyond confining the roots, the arrangements of ordinary houses will answer for the growth of Figs. Probably no place answers so well as the ends of these houses, the trees being planted in shallow borders, and the shoots trained to a trellis 6 inches from the glass. The Figs on these trellises are the best of those

to that purpose only; the Figs will then be more plentiful, and finer, to say nothing of their flavour, which is the reverse of high when they are grown under a roof covered with Vines. If Vines are tolerated they should be not less than 4 feet apart, and better at 6 feet.

In cultivating the Fig in houses exclusively devoted to this fruit, it is desirable to have the borders narrow, for when these are wide and shallow, the roots from being near the surface are very subject to external influences, such as vicissitudes of heat, or of dryness, and moisture, any of which act prejudicially; and the trees grow so luxuriantly in wide borders as to fruit very little, producing long-jointed wood and very large leaves. When the borders are wide, and formed of rich

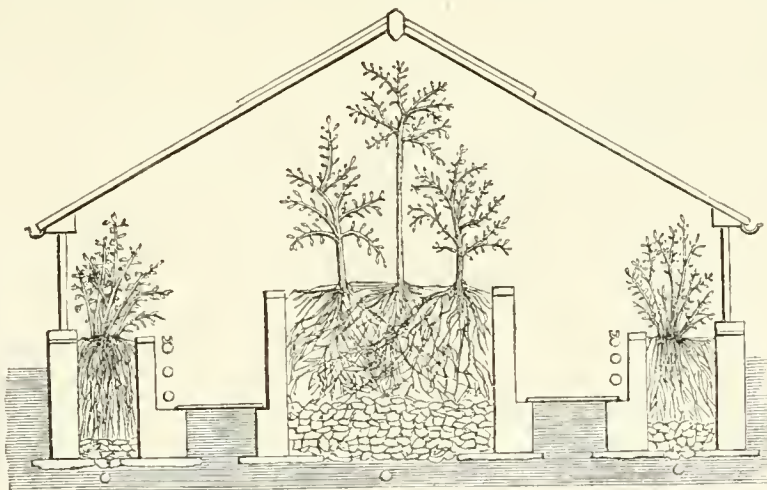


Fig. 2.

compost, it would be advisable to have the trees in pots, standing the pots on the beds or borders, and allowing the trees to root through, for were they planted out in the wide borders they would probably grow amazingly for a year or two before they fruited to any extent, and would require much pruning in after-years to keep them within bounds.

Borders 2 feet, and not exceeding 3 feet in width, are sufficient for trees as bushes, and standards with heads not ex-

ceeding 4 feet in diameter; wider borders must be provided if more than one row of trees be planted, and narrower if the trees be of less size. Two feet of soil is deep enough, and below that there should be 1 foot of drainage; for the great quantity of water which the Fig requires renders efficient drainage necessary. Below the drainage materials, which may consist of half-bricks, stones, &c., a drain should be provided to carry off the water. The drainage may be covered with a layer of turf 3 inches thick, with the grass side downwards, and then with 2 feet of the same a year old, and roughly chopped up with a spade. The turves are best from a field of yellow or hazel loam. It is scarcely possible to improve this soil in any way for the growth of Figs.

The best time to plant the trees is when the second growth is made, and the foliage is becoming yellow. If growing in pots, as in all probability they will be, the roots are to be slightly disentangled, but not to any great extent; it will be sufficient to loosen the outside of the ball. They are to be planted in the front border of *figs.* 1 and 3, and the side borders of *fig.* 2, at 3 feet apart, and in the centre beds of *fig.* 1 and 3, at 4 feet from tree to tree, and those in the centre bed of *fig.* 2, at 6 feet apart. Those in the back borders of *figs.* 1 and 3, should be 12 feet from each other, and one may be planted in each of the end borders of these houses, and two at each end of *fig.* 2, the doorways being in the centre of the houses. After plant-

ing the trees should have a good watering to settle the earth about the roots. From planting early in autumn we may expect a certain amount of root-action to take place before the fall of the leaf, and unless we obtain this we need not expect the fruit, then in embryo and about the size of peas, to remain on longer in spring than to half swell. With autumn planting there is a chance of a first crop, but little hope, if any, when the trees are planted in spring.

After the leaves have fallen the house should be kept cool, and the borders dry, merely excluding frost, though even a few degrees of that will not matter, if the soil and atmosphere be dry. Early in February the trees are to be washed with a composition of 1 lb. of sulphur vivum, lime, and soft soap, made of the consistence of paint, by the addition of tobacco water, prepared by pouring half a gallon of boiling water on an ounce of the darkest or strongest shag tobacco. This composition should be applied with a brush and rubbed into every hole and crevice. The woodwork and glass must likewise be well washed and cleaned, and the former painted if necessary. The walls and sides of the pits ought to be washed with 2 lbs. of flowers of sulphur, and half a pound of soft soap, in a gallon of water, with as much quick lime added as will bring the whole to the consistence of whitewash. The washing and cleaning of the house will save trouble afterwards from the attacks of insects.

The first year it would be well if the trees were not much excited by fire heat at an early season. The first week in March will be sufficiently early for the first season. The house should then be what is generally termed "closed;" nevertheless it is necessary to keep a little air on continually, for of all fruits the Fig is the last to do without a pure atmosphere. The temperature is to be kept at 40° by night for the first fortnight, and the trees and every part of the house should be sprinkled with water before 9 A.M., and before 6 P.M., the best time for the latter sprinkling is at the time of, or shortly after reducing the air, or shutting the lights. The soil is to be kept moist, and yet not wet, until growth has fairly commenced, when liberal supplies of water are to be given, never allow-

ing the trees to be in want of it at any stage of their growth.

The temperature of the house from fire heat after the first fortnight may be increased to 45°, and then progressively every fortnight, gaining a couple of degrees or so in a week, until a night temperature of 55° be attained. Care should be taken not to exceed this degree at the present stage, for the fruit is then undergoing a process similar to stoning, when fruit if unduly excited by a high night temperature will turn yellow and drop. The fruit will remain as it were stationary for a time, and if sufficient air be not given, and the tree suffered to become dry either at the root or in the atmosphere, the same result will follow. Keeping the soil well watered, the atmosphere moist by sprinkling the paths and every available surface twice daily, giving air freely, and early, and a little all night, and closing the house early to catch and retain the sun's rays, will do more towards retaining the first crop on the trees than anything I know. Unless the roots have firm hold of the soil at this critical stage, none of these precautions will prevent a large per-centage of the fruit dropping.

After the fruit again commences to swell a temperature of from 60° to 65° at night may be allowed, and instead of syringing the trees the atmosphere should be kept moist by sprinkling twice daily the floors, paths, walls, &c., with water; but when the first signs of ripening present themselves, this should

be discontinued, and as red spider is sure to make its appearance, the pipes are to be washed with sulphur mixed with water in which a little soft soap has been placed to cause the mixture to adhere the better. It is an old practice to dust the leaves with sulphur, to prevent red spider, whilst the fruit is ripening; but I find that the insect cares no more for dry sulphur than for a dry atmosphere. The only preventive quality exercised by sulphur applied in this manner, arises from its fuming when acted upon by the sun. Unless its fumes are emitted, sulphur is perfectly harmless,

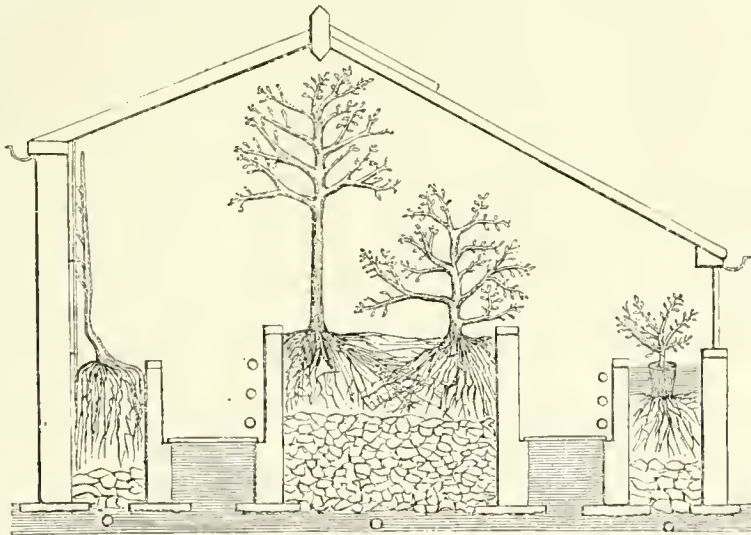


Fig. 3.

but if wet it is like its fumes destructive, though not in so marked a degree. The leaves are so unsightly when dusted with sulphur, and its property of preventing the attacks of red spider so uncertain, as to make its use objectionable; but whatever we do we must keep red spider under, and this will be best secured by having the hot-water pipes or flues, and the walls on which the sun strikes powerfully, coated with sulphur, a little soft soap being mixed with it, as already recommended, to make it adhere the longer and better. Softsoap, I may remark, is a better antidote for the attacks of red spider than sulphur, and this from the ammonia which it contains. Syringing with a solution of this just before the fruit begins to ripen will mostly keep the trees clear until the crop is ripe, when the syringe can be again brought into requisition. A solution of 2 ozs. to the gallon is sufficiently strong; if much stronger it will bring the leaves down, and the fruit will wither, and not ripen fully.

The atmosphere should be kept dry when the fruit begins to ripen, otherwise it will not swell kindly, but crack, or become insipid. Abundance of air, and a dry atmosphere are the requisites when Figs are ripening, but the soil should be kept moist, otherwise the fruit will not swell, and the second crop will be injured. If the trees are not forced until March they will ripen their first crop in July.

After the first crop is gathered the trees should have a good syringing, and an occasional syringing afterwards will do good. A moist atmosphere should be maintained as before



by sprinkling the paths, &c., up to the time of the second crop's ripening, which will be towards the end of September, and during October; the soil ought likewise to receive a good supply of water, but less than in the case of the first crop, partly from the trees having a tendency to ripen instead of grow, and also from the evaporation being less, in consequence of the advanced period of the season. They will ripen off perfectly in a temperature of 55° from fire heat.

By the time the second crop has been all gathered the leaves will have begun to assume their autumn tints; then keep dry, and give all the air practicable, with no more fire heat than sufficient to prevent any great amount of frost in the house.

During the first year the border will sustain the trees without manure waterings, or top-dressings; but in the second the roots will probably have extended to the limits of the border. This will be best ascertained by the growth. If the shoots come strong, and the leaves or joints are wide apart, either the border is too rich, or the roots have too much room. In that case avoid liquid manure and rich top-dressings. If, on the other hand, the roots are cramped, and there is no lack of nutriment in the soil, the wood will be strong, and the joints short. In that case a dressing of rich compost will be beneficial. Fresh cowdung is the best; next comes a compost formed by mixing equal quantities of good loam and sheep-droppings together, and letting them lie for six months; then night soil mixed with four times its bulk of soil, and used a year old; and, lastly, 2 or 3 inches of the short manure from an old Mushroom-bed. The cowdung should be spread over the old soil of the borders to the depth of an inch, and the others are laid on 2 or 3 inches deep, previously removing the loose surface soil. These dressings should not be applied until the shoots are so far advanced as to require stopping. If the borders are not top-dressed they should be watered with liquid manure at every alternate watering up to the crop's ripening, and then again for the second crop. In subsequent seasons the old top-dressing is to be removed as far as practicable in autumn, when the leaves turn yellow and begin to fall, and replaced with fresh, which being supplemented with a good watering will induce a certain amount of root-action in autumn. If top-dressed late, or in spring, the fruit will fall prematurely, from diminished root action just when it is needed, and then a glut of nourishment will cause over-luxuriant growths, which are to be avoided in the case of all fruit trees, and particularly in that of the Fig.

In the second year the trees may be started in February, and the crops will then ripen in June, and in August and September, respectively. The earliest period at which it is possible to start Figs is in January, in which case the first crop will ripen in May or early in June, and the second in August, a third being had by forcing the trees hard in October and November. In a previous article I asked if three crops had ever been obtained in one season, but met with no response, and I have now to state that such has been done, but it is not desirable, for it takes nine months of growth to perfect two crops, the third being obtained at the expense of the next season's fruiting. Fig trees require rest, and three months are not too much; therefore, if Figs are wanted late, it is better to grow trees for the purpose, allowing them to come on naturally so as to ripen one crop in autumn, and a second in October, November, or even December. For this purpose it is best to have the trees in pots, and to keep them out of doors until the middle of September, when they will be studded with the second crop on the midsummer shoots, and if then introduced into a house with a temperature of 55° at night the fruit will ripen in November, and thus green, though ripe, Figs may be had at Christmas and on New Year's-day. In writing of temperature, that of the night is only here given, and that is understood to take place once during the twenty-four hours or at 6 A.M. Whatever temperature may then be proper, the reading should be 5° higher by 8 A.M. and 10° at noon on dull days, 15° on cloudy days with clear intervals, and 20° or more with a cloudless sky, a corresponding amount of air being given in each case. 20° of sun heat will do no harm, but, on the contrary, will prove of the greatest benefit, whilst 5° extra fire heat may be attended by the most serious consequences.

The best sorts for forcing are the White Ischia, a small but delicious Fig, the White Marseilles, Brown Turkey, and Pugnassata, a large Fig much resembling the Brown Turkey, and possessing all its good qualities, except that it ripens its fruit at once, whilst the Brown Turkey ripens almost continuously, or during a lengthened period. The Genoa

for size may have a place, whilst the Castle Kennedy will, I am persuaded, supersede all white Figs for every purpose. —G. ABBEY.

### THE CACTUS PLANTS OF CALIFORNIA.

THE Cactus—the celebrated family of the floral kingdom, the glory of the hothouses of Europe, and the wonder of travellers, whose flowers and fruits are seen on every league of surface in South Carolina, Arizona, and the Peninsula—has never sufficiently attracted the attention of our florists or farmers. Fifty-five species of Cactus are known in the botany of these sections, and they include some with magnificent flowers and of extraordinary appearance, forming beautiful ornaments when in the vicinity of other vegetation. If the different species, all covered with thorns, could be brought together in a Californian garden, they would form one of the most singular and unique displays it is possible to conceive in gardening, and it is to be remembered that the fruits are as valuable for human food as the flowers are for feasting the eye.

The Cactaceæ have an immense range in the altitudes of central North America, or in what we may term the California *simulacra* of climates and soils, as they are found from the parallel of Cariboo to Cape St. Lucas, and from the eastern slopes of the Rocky Mountains in North Dakota to the Gila river. They are met with in all latitudes between Gila and Panama, from the line of perpetual snow to that of the sea-shore. Some two hundred different species of this singular family of American plants are enumerated in the botany of Mexico, ranging from the shape of a Cabbage to that of a Grape Vine, and looming high as a tree and umbrageous as a small Oak. Their flowering is of extraordinary splendour and loveliness, and is from the purest white to vermilion, including every mixture of the prismatic colours. But it is the fruit, the standby of the poor and the Indians in the seasons of drought and famine, that unfolds this providential blessing of the desert in all its value.

Engleman, of St. Louis, an eminent writer on this family, enumerates as indigenous to Arizona and South California four genera of the Cactus—that is, thirty-seven species of the *Cereus* or perpendicular stems, six *Mammillarias* or *Mamaes*, and six *Echinocacti* or Cabbage-Heads. Almost every one of these is found in the mountain ranges and deserts of Los Angeles, San Bernardino and San Diego counties. In Lower California many specimens are met with which are foreign to our parallels of latitude, one of which, a climbing variety, is found in the driest months to be full of the purest water. One of the *Opuntias* has a small fruit, specific in scurvy and blood impurities, while others have fruits with the flavour of Pine Apples, of Strawberries, Peaches, Plums, and Cherries, of the luscious *Cherimoyer* and *Mangosteen*, of the Fig and Grape, and of the Lemon, Apple, and Pear.

The Cactus *opuntia*, or Indian Fig of Mexico—white and red—was introduced into the mission gardens of our state from Santa Clara to San Diego in the early settlement of the country, some seventy years ago; but they are also found indigenous to the mountains of Colorado, in San Bernardino and San Diego counties. Near all the southern missions below Point Concepcion they grow luxuriantly, particularly at Santa Barbara, San Fernando, and San Gabriel. At the two last-named places they are extremely abundant and luscious. These varieties of the Prickly Pear are valuable additions to the food of our state, as the food is not only very plentiful in the summer and fall, but is highly nutritive and agreeable, and can be gathered at will, and the plant requires no care. When stripped of the prickles they can be boiled down to an excellent conserve or syrup, or dried in the sun for preservation, as they contain a large quantity of sugar and gum. The plant is easily propagated by slips or seeds, and has a wonderful endurance, vitality, and hardness. It comes to perfection in three years. Its seeds, which are very abundant in the fruit, are toasted by the Indians as a substitute for corn. The mucilage of the leaves or fronds is thrown into water and used in making cements and whitewashes, and gives great strength to those house-building materials in the arid districts of Mexico. It is in common use around Los Angeles.

Being such plentiful and excellent producers of sugary fruit, so necessary to the labouring man in our dry and attenuated atmosphere, this matter should be attended to by our people, as well as the arts of making molasses from Mangoes, Pumpkins, Melons, Water Melons, Grapes, Pears, Beet, Cornstalks and the wild Sugar-cane, or *Panoche-carisso*, of the Tulares. All these fruits are well known to the Indians and *Mestizoes* of Sonora



and New Mexico, and those of Chihuahua and Coahuila, as producing sugar; and particularly the Cactaceae and Agave, among the Pimes and Papagos of Arizona, who consider the Cactus and Mango as gifts from the gods, for from them they receive food, clothing, shelter, and fencing. The reduction of these articles to conserves and molasses is often facilitated among these simple people by a concentrating process of roasting and baking, and boiling down slowly afterwards, with a little water, to a viscid syrup which never ferments in their keeping, though several of them are also used in the fabrication of mescal or spirits. Of such an exhilarating quality is this fire-water that they often give for such alcohols weight for weight in silver, and bless the vendor for his trade.—(*San Francisco Bulletin*.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

FRESH plantations of Cabbages and Lettuce should be frequently examined, any that droop without an apparent cause should be examined at the roots, where probably a grub will be found, which, if not destroyed, will continue its ravages. Jarth-up the plantations of Broccoli, as they will now be growing rapidly. Cauliflower, continue to prick out the young plants under hand-glasses and in frames, a few may be potted in small pots and placed in a frame, where they can have abundance of air and light, and be protected from excessive wet. Celery, a few rows of that which is required for immediate use may be earthed up to the full extent of the leaves; the successional crop should only be earthed up at long intervals until it is required for use, or on the approach of winter. It should at all times be thoroughly dry before earthing, or it will soon rot. Cucumbers, where there is any forcing-house, those in frames are scarcely worth the trouble and expense of keeping in a bearing state after this time. Plants in frames produce the finest fruit for show, but as they are only grown through the winter for use, they are cultivated at much less expense and with greater care in a forcing-house. A little manure water should occasionally be given to those in pots or boxes. Stop the laterals immediately the fruit shows itself, at the same joint, or one above it. Some prefer the latter mode, but if the leaf at the fruit-joint be not injured, we have not been able to discover any difference between the one and the other in the swelling of the fruit. Mushrooms, keep the outdoor beds protected from heavy rains, by a good covering of litter. Maintain a regular degree of heat in houses containing beds, and guard against aridity. Potatoes, continue to take up the crops as they reach maturity; sort them before they are housed. Radish, slightly thin the late sowings of the Spanish sorts; if a succession of the common sorts is required a sowing should be made in a frame. Spinach, thin the winter crop, leaving the plants about 9 inches from each other. Keep it free from weeds. Tomatoes, should there be any apprehension of frost, the unripe fruit may be cut and laid in any of the forcing-houses.

### FRUIT GARDEN.

Pay every attention to getting the wood of Peaches and Apricots well ripened by exposure, shortening, &c. Most kinds of Apples may be gathered during the present month. Late Pears should be left on the trees while the weather continues favourable to their ripening. Prepare for planting all kinds of fruit trees, by getting the ground in good order for the different kinds. On cold, stiff soils it is advisable to plant on hillocks 1 foot or 18 inches higher than the surrounding surface. The trees will not grow so fast in consequence, and will require more attention in summer in the way of mulching, but they will form short-jointed, well-ripened, fruitful wood, which is the best preventive of canker, gum, &c., and will save the labour of resorting much to root-pruning.

### FLOWER GARDEN.

The scarcer varieties of variegated Geraniums should not be risked in beds too long, they had better be taken up and potted immediately the weather becomes at all threatening. After potting it will be a good plan to place them on a gentle bottom heat in a pit or house, where the atmosphere can be kept sufficiently dry to prevent the foliage being injured. So circumstanced they will soon become established, when they may be stored away for the winter in a cool, dry house, where they will be out of the reach of frost. Any beds which may have become shabby, and which are to be planted with bulbs or anything else for spring decoration, should be cleared at once, and

replanted. Keep grass short and frequently rolled, so as in some measure to prevent the growth of moss, and keep the surface firm and smooth. Also, roll gravel walks frequently in damp weather so as to render them smooth and comfortable to walk on.

### GREENHOUSE AND CONSERVATORY.

Hyacinths and other Dutch bulbs, if not already potted, should be procured and potted without delay. Orange trees meant for forcing in the winter for the decoration of the conservatory, should also now be attended to. These and Daphnes are invaluable for winter blooming, and should be largely grown for that purpose; also see to having plenty of Salvia splendens, which is useful for mixing among Chrysanthemums. It is a good practice to place the largest plants of Salvias in a shady situation out of doors for a few weeks in the autumn. Plants so treated will be found to bloom more strongly and last longer in beauty than others run up in a warm house. Look carefully after the watering of large specimen hardwooded plants in pots, especially Heaths, which are soon injured by being either over or under-watered. Examine the specimens often and carefully, and where they are found to be dry, water thoroughly, so as to moisten the whole of the ball; also look sharply after mildew on softwooded Heaths, and dust the plants with sulphur directly the enemy is perceived. Let Azaleas be tied into form as soon as can be done, in order to give them a neat appearance; also attend to the staking and training of other things as leisure time can be found. Look carefully after red spider on Bossias, Chorozennas, and anything else found to be liable to that pest, and see that it is eradicated before the plants are disfigured. Red spider is easily cleared off by laying the affected plant on its side and well washing the under sides of the leaves with the engine, applying the water with as much force as the foliage will bear. Repot strong-growing Pelargoniums; plants that are fairly established after repotting can hardly be kept too cool; also keep Cinerarias as cool and moist as is consistent with safety, and attend to repotting such as require it. Primulas must also be carefully attended to in order to encourage them to make rapid growth, particularly double varieties. Keep tree Violets clear of their great enemy, red spider, by a liberal use of the syringe, and give them plenty of manure water, which will assist in keeping them in vigorous health. Van Thol Tulips for forcing may be potted. Early Chrysanthemums will now be in a forward state, and such as show their buds prominently should be taken under glass; if it is desirable to have them in bloom as soon as possible, they may now be placed where a little artificial heat can be afforded them. Take care, however, that they are placed near the glass, well supplied with manure water, and air given them freely, as anything in the shape of close confinement would soon ruin them. Indeed the whole stock of them should now be placed where it can be covered at night, in case of frost; for although they will bear more of that than most plants, it is not good policy to leave them to the mercy of the weather much after this season, unless in favoured localities. It is better, however, to place them in skeleton frames, or in a sheltered situation, where they can be covered in case of need, than to huddle them too thickly together under glass, or to put them, as is sometimes done, under the shade of Vines. See that Epacris and other winter-blooming plants are placed in a light part of the house where they will be fully exposed to the sun, so as to have the wood well ripened, and to ensure their blooming freely. In the case of Ageratums, Heliotropes, and dwarf Lobelias, it is useless wintering young stock, as these grow so freely in heat, and are so easily propagated from soft cuttings, that a few good-sized old plants, which require but little room or attention in winter, will furnish a very large quantity of plants by bedding-out time. Attend to the potting of cuttings sufficiently rooted, and give every after-attention to these in order to have them well established.—W. KEANE.

## DOINGS OF THE LAST WEEK.

THE rain of Thursday week helped many things in the kitchen garden, gave a little aid even to late Apples and Pears, and tended to keep such flowers as Calceolarias good and passable for some time longer. Verbenas looked washy for a day or two afterwards, but have again been brilliant under an Italian sky, as for several days not a cloud or a semblance of a cloud was to be seen. The bright sky after the day's rain seems to have greatly improved the colour and appearance of out-door fruit, rendering Apples rosy and bright, and also



making the buds appear full and prominent, and therefore promising for another year.

#### KITCHEN GARDEN.

Sowed Cauliflowers for a second spring crop. Watered Lettuces, Endive, &c. Planted more Lettuces—some to be raised again. Watered Cauliflowers with manure water, the heads swelling for use. Watered also Coleworts, Celery, and young Cabbages; dug ground for more Cabbages. Wheeled lots of Onions into orchard-house, where they can lie dry on the floor until we find more time to string, bunch, and house them. Cleaned winter Onions, Spinach, Radishes, &c. Went over a bank of Dwarf Kidney Beans, pulling all the pods off that were at all advanced; forked the ground, and gave it a good soaking of manure water, so that if the weather continue fine we may have another month's gathering. Placed some old lights over another piece where the pods are just setting, and sowed more to go under cover and into a little heat as soon as the cold nights come. Exposed late Tomatoes to the sun. Examined a heap of spawned bricks for Mushrooms, and find all as it should be. Extra heat must be guarded against. See a few hints lately in answer to a correspondent.

Thoroughly smoked our Mushroom-house with burning sulphur, keeping all shut up for two or three days. This smoking, we believe, helps to keep us clear of woodlice in the winter months; but that is no doubt partly owing to the manure being well prepared in the autumn, whilst for spring-beds we must use pretty well what we can get, and as heat is dear to the woodlice, no doubt we take them into the house with the droppings, &c. At any rate, by March and April we are always sure to have them in-doors, less or more, and all we can do is to keep them down by trapping and scalding. At one time we were so pestered that we could not keep a Cucumber plant safe from them in spring, unless the plant was supported from the ground, and the supports of the trellis and the stems of the plants were surrounded with a circular vessel filled with water. Though found in damp places, woodlice always prefer a dry one. A mere rill of water in a circular vessel will not stop them. The width for the water should be at least from 1 to 1½ inch. We have seen them sitting on the edge of such vessels, and trying with their feelers or antennae, if there was any chance of bridging the water. We have never noticed anything among them like the sagacity said to be displayed by some kinds of monkeys and ants, who, hanging together by their tails and hinder ends, make a living bridge over a stream, by means of which their compatriots may pass over without wetting their feet. A little soap, or salt, or quassia in this circular trough, but open in the middle to let stems, &c., through, renders the water still more distasteful. Once, however, we recollect daubing part of the outside of a pot with soft soap, but it was all cleared off in the morning, with what sanitary effects on the grey-coloured gentry we never knew. Water alone is a great annoyance to them. Hence, on watering a Mushroom-bed, they are sure to escape from the bed into any crannies at back and front, and there afterwards they may be scalded with hot water, or if a little dry hay be strewn along they will nestle into it, and next morning myriads may be destroyed by pouring hot water on them. Small flower-pots with a little dry hay in them, with or without a piece of boiled potato, or carrot, make capital traps, but the finer, the looser, and the drier the hay, the better will they like it. The quickest way to end them, is to tumble the contents of the pots into water near the boiling point. In all old gardens it is next to impossible to eradicate them entirely. We hardly know if they are useful to us for anything, but we do think that at times they are condemned without reason. That they meddle with our young Mushrooms at times is no doubt true; but they are often blamed for what snails and grubs manage to effect. We have seen them boring holes into young Mushrooms, and yet at other times we have seen numbers on a bed, and not a Mushroom touched for months. What could tempt them in the one case, and lead to abstinence in the other, we know not. Many birds are their natural enemies, and in confined places, as pits and frames, toads, and even frogs, are helps to the gardener. The toad in putting a woodlouse out of sight, affords one of the very best instances of physical dexterity. The great Wizard of the North could scarcely exceed it. At any rate, the man who can see the toad transfix one woodlouse after another, will have no reason to complain of weakness of eyesight. So long, however, as our prejudices against the toad continue, it would not do to have him in our Mushroom-beds. We may add that all who keep toads in frames, &c., should keep a little saucer always supplied with water, that they may bathe or drink

at will. We can well enter into the feelings of revolt and aversion, which a correspondent says she cannot help experiencing as regards the toad, notwithstanding his beautiful eyes, and, therefore, she must lessen the myriads of woodlice that annoy her, without his aid, and of all things must not give them the chance of wandering among her Mushrooms. We mention the little matter of the saucer of water for the sake of those who feel no such aversion to employing the toad as their servant, and who would be as unwilling, knowingly, to abridge his necessary comforts, as they would be to lessen the due remuneration of any servant that was well worthy of his hire.

#### FRUIT GARDEN.

Went on collecting hardy fruit. We hope after such ripening weather the late fruit of Apples and Pears will keep well, as most of the early kinds have shown a disposition to decay prematurely. This is the case especially with all that have dropped. We wished a lot to be cleared off by the men when they would have been useful. Something prevented them taking them, and in three days the scent told how matters were going. All wall fruit, as Peaches, &c., came in prematurely this season. Late kinds, as Walburton Admirable, &c., were gathered a fortnight ago, and quite ripe enough, though they kept good for several days. The same kinds have been good, and will be so for a little longer in the late orchard-house, as with a fair command of air fruit may be kept much later there than on the open wall. As stated the other week, we have no doubt that our latest Peaches, and such Plums as Coe's Golden Drop, and Reine Claude de Bavay, could be kept very late in such houses. The Plums especially would be grand in November, if there were the means of keeping out any sudden frost.

#### ORCHARD-HOUSES.

This week we have had a number of notes about these, speaking of failures, partial failures, and inquiries about heating, &c. A few words here will meet the most of these cases. First, then, we would wish it to be laid down that all heated houses, properly speaking, cease to be orchard-houses, and become heated fruit-houses or forcing-houses. Mind, that is no reason why such houses as are called orchard-houses should not be heated. We believe that all or most would be the better of being heated, or at least of the heating material being at hand, ready to be used when wanted, if not regularly, at least on an emergency. Merely for distinction's sake, however, it would be well if the title orchard-house were confined to an unheated house, except, perhaps, one with a portable or brick stove in severe weather. Then, supposing that an orchard-house is made with large squares of glass, instead of so many little pieces, we are inclined to say that in all places where it is worth while to build a wall for tender fruit, it would suit the builder's purpose to front it with glass, either as a lean-to or otherwise, and if that is done in the economic orchard-house style, it will soon save the expense in certainty of result, and saving of all protection. Far north, and in very cold exposed districts, we would not say exactly the same of a span-roofed house, without any means of heating, as it would contain no storehouse of heat, as the back wall of a lean-to always is. Even such a span house will give great facilities to the gardener, for the still air it secures in winter, and the high temperature it will also afford in summer, if that temperature is desirable. Such a house, to a certain extent, though not quite to the same extent as a lean-to, can be used as a protecting, accelerating, or retarding-house, even without any artificial heat being used. One principal cause of failure in some eight or ten cases presented to us, in these unheated houses, is owing simply to the fact of having the buds too forward, and the blossoms opening too early in the spring. This is partly owing to not being satisfied with keeping the orchard-house for fruit trees, but filling it in the winter with Lettuce, Cauliflower, &c., which a little frost will injure. Even then, if shut up at night, much might be done with plenty of air during the day when the thermometer rose above freezing point, and leaving the house open at night when frost was not apprehended. When the frost outside did not exceed some 7° or 10°, it would be as well for trees with well-ripened wood to have the ventilators open all the winter. When much besides the trees has to be attended to, a compromise must be made. The chief danger arises from keeping the house too much shut as the spring advances. If there are tender things on the floor, then they had better be covered over to permit of more air being given.

Some of our friends who have failed, wrote to us in rather a boasting spirit, that their trees were in full bloom in February. Now, we would have been better satisfied if the trees were in

such a state in the end of March, or even later. For all such unheated houses, as well as for open walls, the later the blooming, comparatively speaking, the better and more secure will be the crop in general seasons. Blossoms will stand a number of degrees of frost in the still dry air under glass, but coming into bloom in February there is more likelihood of the bloom suffering from frost. They are also apt to suffer from coldness at the roots, and hence the want of reciprocal action between roots and branches. If the bloom came a month later, the ground would be getting warmer as well as the atmosphere. In a cold unheated house, therefore, early blooming is to be avoided. Plenty of air is, therefore, to be given, provided the frost is not severe enough to hurt the buds. If to guard against this last evil the house must be shut at night, it should be opened as soon as the sun tells upon it. In very cold nights in January and February, with very bright days for a week or a fortnight, in addition to plenty of air, it may often be advisable to dull or shade the glass for a time, to lessen the force and power of the rays, just as it would be advisable in similar circumstances to shade a wall of Apricots or Peaches, to prevent the blossom coming too early, so as to be a prey to future frosts. Let it be set down as a general rule, that very early blooming in unheated houses is more likely to be an evil than an advantage.

When the trees have bloomed and set in a comparatively low temperature they become very obedient to our wishes afterwards, if we use them at all fairly, and do not subject them to too great changes suddenly. By shutting up the house with sun heat, without any other heat whatever, the fruit may be gathered ripe some four or six weeks before it can be in the open air; or by keeping on air night and day in good quantity the fruit may be obtained later than that on the open wall. We can thus gain results according to our treatment of an unheated house. The three or four accounts of failures from scalding, burning, and dropping in shut houses arose, we believe, not as our correspondents think, from an insufficiency of air-giving power, but from not giving that air, or a little of it, early enough. The top ventilators should be at least partially opened as soon as the sun begins to tell on the house. An hour or two of neglect may sacrifice the whole crop. Amateurs who are doubtful about getting out in the morning should give air, at least at the top of a lean-to, however little, the last thing at night. It is not the high temperature of even 100° during the day that does the harm, if that temperature rises gradually, and with air on to prevent heated moisture having any place; it is the raising of the temperature suddenly in a close house that does the mischief. In such a house to be accelerated the air may be reduced by 3 p.m., and removed by 4.30 p.m., thus shutting in a good amount of sun heat. If there is a doubt, a little air may be given again on warm nights about 8 p.m. The trees may be syringed when thus shut up in a sunny afternoon; when dull and cloudy the syringe may be dispensed with. There will be a great difference in the temperature of such a house, after a sunny day, at 5 p.m., and at the same time after a dull cloudy day; but the same thing takes places with fruit trees out of doors, and with no bad results following. As the sun, however, tells more powerfully under large squares of glass than in the open air, it may be advisable at times, when very bright sun comes after very dull weather, just to dull the glass with whitened water, so that the change should not be too sudden. The early use of the ventilators will greatly neutralise all such sudden extremes, and for such cold houses that are to be accelerated, the right use of the ventilators is the great point of safety and success.

To ripen fruit as late as possible, the ventilators may be open night and day, except in emergencies, after June, when all danger from frost may be considered past. A good succession of fruit may thus be had even from these unheated houses, and the practice may be varied to meet the requirement. They would, of course, be more under control, if they were heated, but some people have such a dread of pipes, and bricks and mortar, who really enjoy walking and working among trees, merely under glass, and when once they reap the full enjoyment of such a house, they are very likely to end in having more substantial heated houses. We believe that these simple orchard-houses have already led to pretty well doubling the number of more substantial houses in the country.

We have been giving less air to our first orchard-house, for the purpose of hardening the wood, and ripening Figs in pots. We have taken the sashes off a Peach-house, to have the rafters, &c., repaired, and the glass had not been off ten days before we noticed a tree or two affected with scale, which gave

no signs of it before. We have syringed with soap and quassia water, as the scale insects greatly injure the wood when they get on it.—R. F.

### COVENT GARDEN MARKET.—SEPTEMBER 30.

We have nothing fresh to report, supplies are well kept up, rough descriptions of goods meeting a very heavy sale at former quotations. The best Pears now are Marie Louise, Duchesse d'Angoulême, and Brown Beurré the best Apples, Cox's Orange Pippin, Ribston, and King of the Pippins.

FRUIT.									
	a.	d.	s.	d.		s.	d.	s.	d.
Apples..... $\frac{1}{2}$ sieve	1	0	to	2	Melons..... each	2	0	to	5
Apricots..... doz.	0	0	0	0	Mulberries..... punnet	0	0	0	0
Cherries..... lb.	0	0	0	0	Nectarines..... doz.	0	0	0	0
Chestnuts..... bush.	16	0	0	0	Oranges..... $\frac{1}{2}$ sieve	10	0	20	0
Currants, Red $\frac{1}{2}$ sieve	0	0	0	0	Peaches..... doz.	10	0	0	0
Black..... do.	0	0	0	0	Pears (kitchen)..... doz.	1	0	1	6
Flgs..... doz.	0	0	0	0	dessert..... doz.	1	0	2	0
Filberts..... lb.	0	9	1	0	Pine Apples..... lb.	3	0	6	0
Cobs..... do.	1	6	0	0	Plums..... $\frac{1}{2}$ sieve	1	0	3	0
Gooseberries..... $\frac{1}{2}$ sieve	0	0	0	0	Quinces..... $\frac{1}{2}$ sieve	3	0	4	0
Grapes, Hambro..... lb.	1	6	4	0	Raspberries..... lb.	0	0	0	0
Muscats..... lb.	3	0	6	0	Strawberries..... lb.	0	0	0	0
Lemons..... 100	8	0	14	0	Walnuts..... bush	14	0	20	0

VEGETABLES.										
	s.	d.	s.	d.		s.	d.	s.	d.	
Artichokes..... each	0	4	to	0	6	Leeks..... bunch	0	3	to 0	0
Asparagus..... bundle	0	0	0	0	Lettuce..... per score	0	9	1	6	
Beans Broad..... bushel	0	0	0	0	Mushrooms..... pottle	1	6	2	6	
Kidney..... do	3	0	5	0	Must. & Cress, punnet	0	2	0	0	
Beet, Red..... doz.	2	0	3	0	Onions..... per bushel	3	0	5	0	
Broccoli..... bundle	1	0	2	0	pickling..... quart	0	0	0	6	
Brus. Sprouts..... $\frac{1}{2}$ sieve	2	0	0	0	Parsley..... $\frac{1}{2}$ sieve	1	0	1	6	
Cabbage..... doz.	0	9	1	6	Parsnips..... doz.	1	0	2	0	
Capsicums..... 100	1	0	2	0	Peas..... quart	0	9	1	0	
Carrots..... bunch	0	4	0	8	Potatoes..... bushel	2	6	4	0	
Canflower..... doz.	3	0	6	0	Kidney..... do.	3	0	4	0	
Celery..... bundle	1	0	2	0	Radishes doz. bunches	0	6	1	0	
Cucumbers..... each	0	6	1	0	Rhubarb..... bundle	0	0	0	0	
pickling..... doz.	2	0	4	0	Savoy..... doz.	0	0	0	0	
Endive..... score	1	0	2	0	Sea-kale..... basket	0	0	0	0	
Fennel..... bunch	0	3	0	0	Spinach..... bushel	2	0	3	0	
Garlic and Shallots, lb.	0	8	0	0	Tomatoes..... $\frac{1}{2}$ sieve	1	0	2	0	
Herbs..... bunch	0	3	0	0	Turnips..... bunch	0	4	0	6	
Horseradish..... bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0	

### TRADE CATALOGUES RECEIVED.

Eugène Verdier fils aîné, 3, Rue Dunois, Gare d'Ivry, Paris.—*Trade Catalogue of Gladioli.*—*Rosiers Nouveaux, pour 1865–1866.*

E. G. Henderson & Son, Wellington Road, St. John's Wood.—*Catalogue of Bulbs and other Flower Roots, &c.*

Paul & Son, Old Nurseries, Cheshunt, Herts.—*Rose Catalogue, 1865–6.*

D. Dauvesse, Rue Dauphine, Orléans, France.—*General Catalogue for 1865–6.*

### TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (B. C. D. E.).—"The Poultry-Book" contains what you need. It can be had from our office post free for seven stamps. "The Garden Manual" may be had similarly for twenty stamps. To ask for "two of the best Dahlias" is far too wide a question. Lord Palmerston, deep scarlet, and Canary, light yellow, might suit you. Any florist who advertises in our columns could supply them.

RUSTED GRASS (Henry Clark).—The "red brick dust" which came from the grass upon your shoes are the spores, or seeds, of the *Uredo rubigo*, or Rust, a parasitical fungus.

SEEDLING DAHLIA (N. B.).—The colour is not good—the white and crimson run together. As it is so high a plant and the flowers small it cannot be valuable.



**ORANGE TREES UNHEALTHY (T. C. W.).**—From what you state we should think that they are old, and have been grown in the tubs for a number of years without shifting, until retubbed last year in May, and that pieces of the old tubs, into which the roots frequently penetrate, were buried in the new tubs. We do not affirm that this was the case, but it is very likely, and we know that such pieces of wood aid in the production of fungus, and its mycelium spreading takes possession of any decayed roots, and eventually of live roots also. The roots perishing, the shoots die back, and the leaves fall, until at last the tree dies, and this we have ourselves experienced from the same cause. In any case the condition of your trees shows an unhealthy root-action. Examine the drainage at once, and, this being perfect, the trees will become no worse until February. In the end of that month, or early in March, take the trees out of the tubs, and with a wedge-like and pointed piece of wood pick out the old soil from amongst the roots, taking great care of the fibres, and cutting out all dead roots with a sharp knife. If the roots are very much diseased and decayed the soil should be washed entirely from them, and the dead and decayed roots thoroughly cut out. The tubs being pierced with holes at the bottom (half a dozen  $\frac{1}{2}$  inch in diameter will be ample), put in crocks for drainage, previously washed clean, to one-fourth the depth of the tubs, placing the largest at the bottom and some smaller ones upon them. As regards soil, though we have tried many kinds, we have found none so good as turfy loam from turves cut  $\frac{1}{2}$  inch thick from a pasture of good hazel or yellow loam, and if rather strong all the better. Lay this up for twelve months and turn it over twice, mixing with it every turning a bushel of soot to every cartload of turves, to render it distasteful to wireworms, and it will be eminently suitable for Orange trees, and, in fact to all fruit trees in general cultivation. This compost should be kept under cover for a short time so as to be neither dry nor wet, and may then be chopped up with a spade into pieces 1 or 2 inches square. Some of this is to be riddled with a sieve having fine meshes, and what remains in the sieve is to be placed at the bottom of the tubs upon the drainage to the depth of 3 inches. Then introduce the trees, using the compost chopped but unsifted, and work it well but carefully in amongst the roots. Place the neck or collar of the trees a little higher than, rather than a little below, the edge of the tubs. Spread out the roots, and place soil between the layers as they rise. Do not cover the uppermost roots with more than  $\frac{1}{2}$  or 2 inches of soil. Make the soil pretty firm, but neither very firm nor loose. Leave space for watering, give water as soon as the trees are retubbed, and at once place in a temperature of  $55^{\circ}$  by night, sprinkling the trees morning and evening with water of the same temperature as the house, and maintaining a moist atmosphere. If the tubs could be plunged in a bed of tan, or other fermenting materials, at a temperature of  $75^{\circ}$  or  $80^{\circ}$  for a fortnight or three weeks, quick root-action would be ensured, and they should be gradually withdrawn when top-growth commences. The temperature by day should not exceed  $65^{\circ}$  with sun at this season, and with all but leafless trees, little water will be needed; none to be given so long as the soil remains moist. If the heads are full of wood they may be thinned out before growth takes place. After growth has recommenced if the soil become dry water copiously and at once, but never until really necessary. Give abundance of air after growth takes place. To keep the roots cool the tubs may be surfaced with an inch of cocoa-nut refuse. The trees will not need anything in the way of manure or manure water during the first season after retubbing, but in future top-dress the trees in February with an inch of cow-dung, kept dry for six months and then broken fine, and on this place a little loam for the sake of appearance. After the trees have been a number of years in tubs the old soil around the sides of the tubs should be removed annually in February along with the loose surface soil, and any that can be picked out with a stick from between the roots without injuring them; then replace with turfy loam mixed with an equal quantity of cow-dung not more than a year old nor less than six months. Weak liquid manure may also be given during summer. The rich compost and liquid manure are only for plants in good health, though they may be weak. From some cause or other your trees are in a very bad condition; bad drainage, sour and too rich soil, will produce the effects which you mention, and so will treating the Orange as a bog plant. When the roots are in a suitable medium the trees will thrive, but once these are in a bad way they are slow of recovery.

**HERBACEOUS PLANTS—AZALEA LEAVES BROWNED (W. D. B.).**—"Flower Gardening for the Many" contains a full and descriptive list of herbaceous and other border plants, which you can have by post from our office for five stamps. The Azalea leaves are browned from allowing water to stand upon them during very bright sun, and from the plants being grown without a sufficiency of air. Syringing with a solution of soft soap will also produce the same result. What Cyclamen is if you wish to know how to cultivate? Write us, we shall be glad to furnish the information necessary.

**SCREEN FOR A GARDEN (S. S. S.).**—There is no question about a Beech hedge best serving your purpose. It is of rather slow growth for the first two or three years, but after it becomes established it makes shoots from 1 to 2 feet long in a season. You may perhaps be able to get trees 6 feet or more in height, but of whatever height they must be feathered to the ground, or have side shoots not more than 1 foot from the surface. The common Beech (*Fagus sylvatica*) is the most suitable, and it stands smoke pretty well. The larger the trees for your purpose the better, as they will form a hedge almost at once if planted 2 feet apart. If smaller trees are planted, say 3 or 4 feet high, a foot or 18 inches is the proper distance. The ground where the trees are to be planted should be dug deeply, 2 feet if possible, and a liberal dressing of manure given if the soil is poor. Trees 3 or 4 feet high will not make a hedge 12 feet high in less than seven or eight years; trees 6 feet or more high in half that time. If a thick hedge be wanted the trees should be planted in double lines, 18 inches apart in the lines, and 1 foot from line to line, planting quincunx fashion. The first year the trees will need no clipping, only any long side shoots may be cut in after the growth is made and the leaves have fallen, or, if they remain on dead, cut during the winter. In future years clip the sides after the fall of the leaf and before fresh leaves are produced. Allow the heads to grow, cutting at the sides only until the hedge attains the desired height, but if any much overtop the others they should be reduced to an equality with these. Immediately after the leaves fall is a good time to plant, and from that time (November) to March. When once established the hedge will grow fast, watering in dry weather during the first year will enable it to become more speedily established, and rich soil will do the rest. Poplars would grow more rapidly, but soon go off where there is much smoke.

**POTTING VALLOTA PURPUREA—LILIAM BULBS DRIED (P. P. P.).**—The best time to pot *Valloia purpurea* is when the plants are growing freely, but any time will do except when the flower-scape appears, and during flowering. From March to May is as good a time as any. So long as the drainage is good and the soil not sour the plant will bloom all the better of the roots touching the sides of the pot; repot, therefore, only when the soil becomes sour or the plants too large. The best of the white *Liliums* for pot culture is *Lilium speciosum* (Lancifolium) album, but all the varieties of that species have white flowers spotted with red in its various shades. Bulbs purchased would bloom well another year if large enough. Nurserymen keep such bulbs in the soil until ordered, so that they are not long enough in their seed-shops to be injured to any great extent. The sooner they are potted after being taken up the better.

**LILIES OF THE VALLEY NOT BLOOMING (A. V.).**—They ought to bloom next spring if taken up from the bed and potted at this season. We never pot any except those with large plump buds, feeling them with the finger and thumb, and if they are large and firm you will, on opening one or two, find the flowers within them. Such roots are the right ones to take up and pot, nine out of every ten of them will bloom if not forced so hard as to go blind. To your having potted the roots last year with small thin crowns is to be attributed the coming up of the leaves without flowers, unless, as before stated, the plants were too rapidly forced into growth.

**WINTERING ROSE CUTTINGS (S.).**—The cuttings recently potted off, and which are well rooted, will be best plunged quite up to the rim of the pots in coal ashes in your cold frame. If placed on the stage the frost will injure the roots. Give them abundance of air in mild weather, with a covering of mats, or something dry over the glass, in severe nights, and during the day so long as the plants remain frozen.

**EVERGREEN PLANTS FOR COVERING A TRELLIS (Rosery).**—You confine us to evergreens for your shaded east and open south-east aspect, and yet you say you do not wish for Ivy on the east shaded aspect. Ivy is the very plant for a corner. However, though we do not know any suitable evergreen climber, the following plants may answer, if not too much shaded—*Crataegus pyracantha*, *Cotoneaster microphylla*, *Berberis Darwinii*, and *Photinia serrulata*. South-east aspect—*Viburnum suspensum*, *Raphiolepis ovata*, *Eucallonia glandulosa* and *organensis*, *Garrya elliptica*, *Cotoneaster Simonsii* and *buxifolia*, *Ceanothus azureus pallidus* and *floribundus*, *Buddleia globosa* and *Lindleyana*, *Arbutus Menziesii* and *procea*, *Olea europea* and *ilicifolia*, *Ligustrum japonicum*, and the Exmouth variety of *Magnolia grandiflora*.

**DACTYLIS GLOMERATA VARIAGATA CULTURE (S. Edwards).**—This is a somewhat tall and rather coarse Grass, besides not being permanent in its variegation. It is quite hardy, simply requiring to have the roots divided in April and planted 6 inches apart where it is to remain, watering after planting, and during dry weather until established. If it be *Dactylis variegata elegantissima* that you mean, which is of closer and more dwarf growth, and the whitest and most permanent of variegated Grasses, it is only hardy in dry well-drained soil. It is best taken up in autumn, potted in sandy loam, and wintered in a cold greenhouse or frame. In spring if the plants are divided every shoot will come away with a little root or one partially formed at the base of the divisions. Pot these in sandy loam in pots  $2\frac{1}{2}$  or 3 inches in diameter, and set the pots on coal ashes or plunge them therein in a cold frame. If watered and kept rather close and moist for a few days roots will soon be emitted, then harden off, and plant out in May, at 1 foot apart in lines, or from 6 to 9 inches apart when planted in curves. This grass will grow in any soil, but best in light loams, with a little leaf mould added. In rich soil it grows more strongly, and attains a height of 1 foot or 15 inches. We mean to try planting it as a permanent edging, and clipping it with the shears until it becomes thick, and then mowing it with the machine like a grass verge, as we think it will become less strong in stem by cutting.

**OXALIS TROPICOLORS CULTURE (Idem).**—This is synonymous with *Oxalis corniculata rubra* and *O. corniculata foliis atropurpureis*. It is a hardy perennial, forming dense tufts of deep purplish-brown leaves, and does well in loam or gravel. It strikes as freely from cuttings as the Verbena, and at any season; but to have good plants they should be struck in July or August in a close cold frame, and when well rooted pricked off 3 inches apart every way, and planted out in spring where they are to remain. Cuttings struck in March make nice plants for planting out in May. It is easily raised from seed. Good plants may also be secured by sowing in pans in a frame late in summer, and when large enough to handle pricking off 3 inches apart in sandy or well-drained ground, or potting off in small pots in sandy loam with a little leaf mould and sand, and wintering in a cold frame. If sown in February and March like *Lobelia speciosa* and treated like it, nice plants are obtained for planting out in May. It is an edging plant of dwarf compact habit and withstands rain well; it is of the colour of Beetroot leaves, not so dark as Perilla, but deeper than *Amaranthus inclanolicus ruber*, and better than either for small beds and narrow borders. So common a plant deserves more extensive cultivation. It is a charming plant for the lower fissures of rockwork. The flowers are bright yellow.

**SOWING NEMOPHILA INSIGNIS (T. S.).**—To have it in bloom in September and October, it should be sown during the third week in June, in warm situations, and on dry sandy or stony ground, and during the first or second week in that month, if the soil is heavy and cold.

**LEAKING TANK (A. K.).**—The tank being of bricks laid in Roman cement and leaking after frost, there is no question as to the leakage being caused by the expansion of the water converted into ice. We have a tank of this kind sunk so as to be covered with 1 foot of soil, and having a moveable lid to get at the water, and the latter was never known to be frozen, nor the tank to leak. It is used to hold soft water for watering the garden. We only wish we had more tanks of a similar description. The only suggestion we can make is to have yours covered with soil upon the tiles to the depth of a foot, and thus render it proof against frost, or to ram clay firmly round it, so that if the bricks and cement gave way from frost, the clay would prevent leakage.

**DESSERT APPLES AND PEARS (S.).**—The six best dessert Apples and the six best dessert Pears for a small garden in the south, the trees to be grown as espaliers, and the fruit to come into use from November to April or May, are—Apples: Cox's Orange Pippin, Reinette Van Mons, Sturmer Pippin, Scarlet Nonpareil, Dutch Mignonne, Wyken Pippin. Pears: Conseiller de la Cour, Winter Nelis, Beurré Diel, Zephirin Grégoire, Deurce de Rance, Josephine de Malines.



**APRICOT TREE UNFRUITFUL.—EASTER BEURRÉ PEAR CHACKING AND DECAYING (G. Pitt).**—We should think that the Apricot runs much to wood, caused from the soil being rich, and the pruning excessive. When Apricots have covered their allotted space the growths are very often abundant and vigorous, and to keep them close to the wall much summer pruning has to be resorted to, which is seldom done until the shoots are a foot or more in length. This keeps the tree constantly producing wood, so that no bloom-buds are formed. Try stopping the shoots (except those wanted for filling-in and extension, which should not be stopped at all), at the fourth leaf, and when they push again at the first joint, and after this keep them close-stopped to one joint throughout the season. If the roots are not deep you will then have bloom-buds for fruiting another season. If the roots are deep and the soil rich, the tree will always make a great deal of wood, no amount of pruning and stopping keeping the shoots short and stubby, and as for spurs they will be few and far between. To take up the trees immediately the leaves turn yellow, and replant, would most likely give short-jointed wood, and many short spurs another year set with buds, from which you may calculate on having fruit in the ensuing season. If the tree is old and large it would be as well to try root-pruning, taking out a trench at a distance of half the height of the tree, and to a depth of 2 feet, and cutting off all roots there if any, and if none be found work towards the stem of the tree, cutting off all roots that go perpendicularly down, leaving all those less than the little finger as little disturbed as can be. Fill in the trench after you have worked the soil between the trench and the stem to within a yard or so, and leave the surface roots undisturbed; but if no roots that go down be found in that space, then follow up the trench to the stem, so that any roots striking down there can be cut off. This will be almost equivalent to lifting the tree, which if it is excessively vigorous, is what we advise to be done, and in the following manner:—Dig out a trench 2 feet wide and 18 inches deep, at half the distance from the stem that the tree is in height, and at an equal distance all round from the stem. With a fork remove the soil from amongst the roots for a distance of 3 feet, or half that between the trench and the stem of the tree. Then remove the surface soil down to the roots, and work under them with a spade so that the roots may be moved with some earth to them. This done quite up to the wall, lift the tree clean out, having first unnailed the branches and tied them together so as to prevent breakage. Ascertain whether there were many roots that had gone down by the wall, and if there were place a thin flag stone, a yard square, close to the wall just where the tree is to be planted, and at exactly 1 foot below the surface. The soil being removed from the opening to a depth of 1 foot 3 inches, lay at the bottom 6 inches of fresh and rather light loam, and if the top spit 6 inches, of a pasture, chopped with a spade roughly, nothing could be better. Lay about 3 inches of rather finer soil on this, and then place the tree in its proper position, and if the roots next the stem be just on a level with the surface all is well. Cover them with 3 or 4 inches of fresh soil, so that the stem may appear slightly elevated. Spread out the other roots not in the ball regularly, cover with a little fine soil, and finally cover up with 6 inches of good turfy loam. If the border is not cropped, then the roots should be 3 inches nearer the surface. The best time to do this is immediately the leaves turn yellow. The Pear tree root-pruned last year could not have been so effectually. That kind of root-pruning at a distance from the stem, and which only takes away the thick roots there going deep is worse than useless. The roots that go down are in nine cases out of ten right under the bole, and for root-pruning to be effectual these must be cut. The roots have penetrated into bad soil, and must be brought nearer the surface to effect a cure.

**PRESERVING KIDNEY BEANS AND SCARLET RUNNERS (Idem).**—We have known them kept quite fresh until March, and, in one or two instances, until these Beans came in again. The process was simply gathering the pods, when of a size fit for use, on a dry day, and during dry weather if possible. A thin layer was then placed at the bottom of a stone jar, then a thin layer of fine salt so as to cover them, and on this a layer of Beans, then salt, and so on until the jar was full. We cannot say how much salt was used, but we think that it was equal to one-fourth of the bulk of the Beans.

**LOMATIAS.—CLARY WINE (W. Harlow).**—*Lomatia ferruginea* is a native of China. *L. silaifolia* is from New South Wales. We never remember a recipe for effervescing Clary wine.

**A SMALL MARKET GARDEN (Devoniansis).**—To answer your query would require us to be acquainted with the rent paid for houses along the whole south coast. You must go and see for yourself. Select a lightish soil, and begin at some village on the shore of the Southampton water, such as Westoe; but you will be puzzled to find a £5 house anywhere, we think.

**VINES OUT OF DOORS (Obliged Reader).**—You may try on your S.W. and W. wooden fences Black July, Early Autumn Frontignan, and Early White Malvasia. We have a series of very narrow glazed frames, like the lights of a Melon frame, but much narrower, to cover our Vines. At the bottom they rest on a course of bricks, at the top they go under a coping. They join closely to each other, and each can be easily lifted off to admit air or for any other purpose.

**GROWING PLANTS FOR PLEASURE AND PROFIT (Nemo).**—You may grow plants profitably and add a little to your income; but you must not think to do it and not let others know you grow plants for sale, as if it were something of which you feel ashamed. Your most likely way of disposing of your plants will be to those requiring them in the immediate locality, though we do not say you might not sell them at a cheap rate wholesale in dozens and hundreds to some dealer. You will find those plants suitable for windows and decoration of rooms most remunerative, especially those grown by the little-initiated in horticultural matters, as, for instance, Pelargoniums, Fuchsias, &c., for summer; Chrysanthemums for autumn; and Primulas and winter-blooming plants in winter. You will soon learn what is most in demand, and then go to work so as to meet the demand. Your seven hundred plants are, we presume, chiefly bedding plants, worth wholesale to a nurseryman 15s. per hundred, as he will probably have to send them out at 20s. or 30s., with the trouble of repacking and giving six or twelve months credit to the purchaser. Now, were they plants of which everybody liked a few, but which they have not convenience of raising, they would bring 6d. or 1s. a-piece. To grow plants for profit, the better kinds of common plants must be grown in quantity, and to effect sales the grower must not only openly announce himself a grower for sale, but solicit orders. Almost anything can be made to pay, the main points being principle, and supplying a good article at a fair price. Considering the time and uncertainty in the sale of plants, we are inclined to think fruit would pay better. Fruit always commands a ready sale; plants do not, being often kept in stock more for the accommodation of customers by nurserymen, than for the profit which they afford. Vines would pay well. A viney 18 feet wide would cost about £1 per foot run, and with the Vines 3 feet apart, an outlay of £3 per Vine would be necessary. The first year there would be nothing, and until the third year the produce would be no more than would pay for fuel and wear and tear. After the second year, up to the sixth year, 12 lbs. of Grapes per Vine would be what you might reasonably calculate upon having, worth 5s. per lb. in May, 3s. 6d. in June, and 2s. 6d. in July, and never lower than 1s. 6d. per lb. In full bearing they would give 20 lbs. per Vine without at all taxing them too much, worth at least £2. In the growth of Grapes successfully the profits are, reckoning wear and tear and first cost, equal to 25 per cent., and very often 50 per cent. may be made of them. Besides, you can make arrangements with a fruiterer to take all your Grapes at a stated sum, and not have one-tenth the trouble necessary in disposing of plants.

**DESTROYING LABURNUM TREES (Laburnum).**—Make about four incisions in the bark down to the wood, and in these place arsenic. If done a little below the surface it will not be necessary to put a bandage round to keep out the air, covering with earth being sufficient. As you wish to grow Ivy upon the trunks of the trees, though the arsenic will destroy the Laburnum it would prove equally fatal to any climbers, from the roots absorbing the arsenic from the soil. We should advise the heading-down of the trees now; and then, opening out the soil around the stems, cut the bark through level with the soil, and strip the trunk and roots of bark quite down to the wood. If you do this completely, with the trunk and the roots for a length or depth of a foot or two, the trees will die. Had you applied the salt, as you mention, in sufficient quantity it would assuredly have destroyed the trees. We should plant the Ivy without attempting to kill the trees. The foliage of the two, and the blossom of the Laburnum, would look well combined, as long as the Ivy allowed the Laburnums to live.

**WHITE GRAPE (F. H. R. A.).**—To ripen in a viney with your Black Hamburgs and Lady Downe's Grapes, if you wish for a muscat-flavoured Grape have the Muscat St. Laurent. If you do not wish for a muscat flavour have Royal Muscadine.

**NAMES OF FRUITS (A Young Gardener).**—1, Cornish Aromatic; 2, Shepherd's Seedling; 3, Catshead; 4, Alfriston; 5, Rymer; 6, Keswick Codlin; 7, Dutch Miguonne; 8, 9, Dumelow's Seedling; 10, Downton; 12, Kentish Codlin. (E. M.).—3, Bourne de Rance; 4, Louise Bonne of Jersey; 5, Knight's Monarch. (Q. N. S.).—1, Flemish Beauty; 2, Winter Nebis; 4, Figue de Naples; 5, Boa Chrétien Fondante; 6, Passe Colmar; 7, Thompson's; 10, Duchesse d'Angoulême; 11, Beurte d'Arenberg; 12, Glon Morcan. Never stick pins in fruit; it is a dangerous practice, and numbers so affixed are apt to become detached. (C. S.).—1, Beurte Diel; 2, not recognised. (A Subscriber, Alorton).—1, Cornish Aromatic; 3, London Pippin; 4, Marie Louise; 5, Hollandbury. (W. D.).—Your Pear appears to be Williams's Bon Chrétien, but its flesh was completely rotten when it reached us. It is impossible, however, to tell the name with certainty from such an abnormal specimen. The fruit has been punctured by an insect when in a young state.

**NAMES OF PLANTS (T. Edwards).**—1, Doodia caudata; 2, Selaginella Martensii; 3, insufficient. (Athea).—*Polystichum angulare proferum*. Was it really found wild in Wales? It is a cultivated variety, and has never been recorded as a native of Wales. (Subscriber).—Yes, it is the water weed you suppose; the name is *Anacharis alsinistrum*. (Cissie).—*Gentiana campestris*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending September 30th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. ap.	2 ft. dp.			
Sun. . . 24	30.417	30.300	74	35	61	60	N.E.	.00	Fine; very fine; hot sun; cool at night.
Mon. . . 25	30.379	30.302	75	38	60	59	E.	.00	Foggy; very fine throughout.
Tues. . . 26	30.248	30.149	78	36	60	59½	E.	.00	Foggy; hot and dry; bright sunshine; very fine.
Wed. . . 27	30.085	30.048	78	32	60	59	E.	.00	Foggy; hot with very dry air; at freezing at night.
Thurs. . 28	30.175	30.144	74	37	60	58	E.	.00	Quite clear, and very heavy dew; very fine.
Fri. . . 29	30.234	30.141	68	36	60	58	E.	.00	Overcast; slight dry haze; very fine.
Sat. . . 30	30.095	30.014	68	41	59	58	E.1	.00	Fine; very fine; overcast at night.
Mean. .	30.232	30.171	73.57	36.43	60.00	58.71	....	0.00	



## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

A FATAL DISEASE AMONG POULTRY  
PREVAILS IN PARIS.

SUCH is the whole of a paragraph which appeared in a local paper a short time since. Possibly more has been said elsewhere; but if so, it has escaped my notice. If this newspaper account be true it is very necessary to be informed on two points—firstly, what the disease is like, and, secondly, how the Parisians treat it. Then follow the questions—Are we likely to have it amongst our birds? and if so, What are the best means to adopt for prevention? What are the symptoms? Have we got it already?

This last question brings to my memory a paragraph in the "Field," of the 9th of last month, headed "Cholera in Poultry." It is there stated that several young chickens were almost all seized at once with excessive purging, and that they died at from two to four days after the beginning of the attack. A brood of nine chickens came in contact with these, and all died in one night. I have noticed amongst my own birds a tendency to diarrhoea; but by constant watchfulness I have had neither illness nor death from this cause. With disease around us in animal and vegetable life, it is necessary that at every sound of alarm public notice should be aroused.

I have been too short a time a poultry fancier, and too fortunate in the health of my birds to be learned in their diseases. Perhaps I am about to discover a mare's nest, or to inquire into that which is very well known to every one else; but I think your readers will agree with me that to ventilate the subject of diseases, particularly at this time, is a matter to be desired.

During last winter I had some birds sent to me, which were out of health and with a slight roupish cold. They came from a yard where roup was said to have been. By great care these birds recovered. A bird of my own stock was soon seized with a swelling on the right side of the face under the eye. This increased very much, and a discharge from the eye and nostril, apparently the result of much inflammation, set in. I showed the bird to a surgeon, who had once operated on a fowl for a tumour. He said that the swelling, except to the touch, had all the appearance of being one, but that it was not so, and that it felt more like an enlargement of the bone. He said further that it would be useless to operate. I applied warm lotions, and gave soft, nourishing, but not heating food; yet, in spite of all, the bird died. Another bird was seized in the same way, and being a valuable one, I took the nursing into my own hands. I gave castor oil, a pill of calomel and antimony on alternate nights, washed the part affected night and morning with warm water, and then bathed it with vinegar, fed every night on oatmeal, and gave after a time cod-liver oil daily. In about a month, during snow and very trying weather, the bird began to recover, but remained weakly until summer weather began. She then laid, hatched, brought up chickens, moulted, showed signs again of the disease, and whilst I was away from home this summer she died.

About the end of July last a cock bird was seized with the same attack, but before the second attack of the hen took place. In this case, as soon as the tumorous swelling was of considerable size, and we noticed an affection of the roof of the mouth, my man suggested that an incision should be made. This was done, and with a loop formed by a twisted hairpin, he extracted a filthy offensive core, and effected much discharge from the eye and nostril. I gave castor oil, but no other medicine, and afterwards Douglas's restorative. The bird is almost well again. In this and one or two other cases, where the birds being of little value were either killed or died, the affection came on the right side of the face. With these exceptions I have been singularly fortunate in the health of my birds.

I hear, however, frequent complaints from others of the loss of birds and illness of one kind or another. A neighbour has some Golden Pheasants all suffering from the same kind of attack as that which my poultry suffered from. We are too far apart, and have no communication with one another by which disease could be carried. He has lost several. I opened the swelling in the roof of the mouth of one of his birds, with the same results as in my own case. The bird is now recovering; the others have not been touched with the knife. The last that died I believe he sent to you, that you might examine it.

I hope this French disease may prove to be a fable, the cholera an exceptional case, and, at the risk of boring your readers, that I have told them nothing new in the disease I have mentioned. Still there is enough to justify inquiry, and I shall be indebted to any one who can furnish a speedy remedy or a simple preventive for the cases that I have named, and who will help to make known any coming disease with which we may be threatened.—EGOMET.

BROUGHTON, BARTON, AND GOOSNAIGH  
DISTRICT POULTRY SHOW.

SEPTEMBER 21.

THIS Poultry Show was held at Broughton, near Preston; there was a numerous entry in some classes, and the competition was very severe. In *Dorkings* there were some good specimens shown; whilst in *Spanish*, although prizes had been offered, there was no competition. There were some capital *Game* birds exhibited, especially the chickens. *Cochin-Chinas* figured conspicuously, there being some remarkably good specimens exhibited. In the Golden-pencilled *Hamburghs* some beautiful old birds as well as chickens were shown. The same remark would almost apply to the Silver-pencilled birds. Golden-spangled *Hamburghs* were moderately represented. Silver-spangled on the whole were a good show, especially one pen of chickens. In *Game Bantams* the Show was excellent. *Geese*, though very noisy, were a good show. The *Aylesbury Ducks* were only moderate. In *Rouen Ducks* only one pen was exhibited. In goslings, and *Aylesbury* and *Rouen* ducklings, some very promising specimens were exhibited. Of *Pigeons* there were few entries. The awards were—

*DORKINGS* (Any colour).—Prize, J. Robinson, Vale House. *Chickens*.—Prize, J. Robinson. Highly Commended, W. Miller, jun., Cottam.  
*GAME*.—Prize, J. Harrison. *Chickens*.—Prize, J. Robinson, Commended, J. Harrison, J. Bamber, J. Turner.  
*COCHIN-CHINA*.—Prize, J. Robinson. *Chickens*.—Prize, J. Robinson.  
*HAMBURGH* (Golden-pencilled).—Prize, J. Robinson. *Chickens*.—Prize, B. Bee, Goosnaigh. Highly Commended, J. Robinson.  
*HAMBURGH* (Silver-pencilled).—Prize, J. Robinson. *Chickens*.—Prize, T. Pomfret.  
*HAMBURGH* (Golden and Silver-spangled).—Prize, J. Robinson. *Chickens*.—Prize, J. Robinson.  
*BANTAMS*.—Prize, J. Butcher, Lee. *Chickens*.—Prize, W. Blackhurst, jun. Highly Commended, J. Butcher.  
*GEESE*.—Prize, B. Bee. *Goslings*.—Prize, B. Bee. Commended, T. Rawcliffe, Broughton.  
*DUCKS* (*Aylesbury* and *Rouen*).—Prize, J. Robinson. *Ducklings*.—Prize, J. Robinson.  
*PIGEONS*.—Prize, J. Roberts, Penworthan.  
JUDGE.—Mr. H. P. Watson, Preston.—(*Preston Guardian*.)

LANCASTER AGRICULTURAL SOCIETY'S  
POULTRY SHOW.

At this show which was held at Lancaster on the 19th September, the show of poultry was very large.

The awards were as follows:—

*GAME*.—First, G. Hodgson, Whittington. Second, J. Robinson, Vale House, Garstang.  
*GAME COCK* (Any colour).—Prize, J. Robinson.  
*HAMBURGH* (Golden-pencilled).—First, J. Parkinson, Elswick. Second, J. Robinson.  
*HAMBURGH* (Silver-pencilled).—First and Second, J. Robinson.  
*HAMBURGH* (Golden-spangled).—First and Second, J. Robinson.  
*HAMBURGH* (Silver-spangled).—First and Second, J. Robinson.  
*DORKINGS* (Any colour).—First, J. Robinson. Second, J. Parkinson.  
*COCHIN-CHINA* (Any colour).—First and Second, J. Wood, Chorley. Highly Commended J. Robinson; J. Hodgson.  
*SPANISH* (Black).—First, J. Hodgson. Second, M. Slater, Tatnam.  
*BANTAMS* (Game).—First, T. Kenyon, Blackburn. Second, J. Parkinson.  
*BANTAMS* (Any variety).—First, C. J. Clarke, Torrisholme. Second, W. Jackson, Lancaster.  
*TURKEYS*.—First, J. P. C. Starkie, Ashton Hall. Second, J. Armistead, Quernmoor.  
*DUCKS* (*Aylesbury*).—First and Second, J. Robinson.  
*DUCKS* (*Rouen*).—First, J. Parkinson. Second, J. Robinson.  
*GEESE*.—Prize, Mrs. Gardner, Quernmoor.  
JUDGES.—Mr. R. Teebay, Fulwood, near Preston; Mr. Peel, Lancaster.

MANCHESTER POULTRY SHOW.—The Messrs. Jennison, of the Zoological Gardens, Belle Vue, near Manchester, have just issued the prize schedule for their fifth Meeting, to be held in the Music Hall connected with their extensive establishment, for the exhibition of Poultry, Pigeons, and Rabbits. The days fixed for the show are the 28th, 29th, and 30th of December next. The prize list embraces the unusual number of sixty-nine classes for poultry alone; for Pigeons there are twenty-four classes; and for Rabbits ten classes. To *Dorkings*, £57 in money, besides two silver cups, value five guineas each,

will be awarded; to Spanish, £29 in cash, with one five-guinea cup; and to the Cochiti classes, £64 in money, and a five-pounds silver cup, will be given. Brahmas receive £17, and Polish, £6 as premiums; to the Game classes, the very liberal sum of £106, besides two five-guinea silver cups, is appointed. Geese and Ducks receive £18; Turkeys, £13; and £6 will be given to Extra Stock. Premiums to the amount of £27 are given to Black Hamburgs, whilst £53 in prizes will still further reward the successful exhibitors of Hamburgs generally; £22, besides two five-guinea silver cups, will enlist a warm competition in the Game Bantams; and £6 will be given to Bantams of any other breed. With like liberality £90 10s. will be awarded to Pigeons, and £20 to Rabbits. It will be thus evident that to Pigeons, Rabbits, and Poultry alone an aggregate sum of nearly £500 will await the decision of the Judges; and when it is remembered how perfectly adapted to the purposes of a show the Belle Vue Music Hall has always proved itself to be, we with confidence anticipate not only a very extensive entry, but also the presence of most of the principal pens of prize birds to be met with in the kingdom.

### MIND THE PAINT OR DYE.

CAUTION TO ALL BUYERS OF POULTRY.

WHEREAS, last week I wrote to an advertiser in that knowing county Yorkshire, for a few Duckwing Game Bantams to be sent on approval, and, whereas, the said advertiser forwarded the said Bantams the next day; and, whereas, on taking them out of the hamper I could not help admiring their legs inasmuch as that they were splendid in that colour known as willow: Now, this is to give notice, that on close examination the said legs were found to be painted or dyed, and their natural colour was blue.—GENTLE.

### POULTRY CLUB STANDARDS.

My object in writing my last was not to "cavil at an award when made," but simply to gain information. I am extremely sorry that Mr. Hewitt has put a construction on it which was never intended by the writer. I entertain the highest opinion of Mr. Hewitt as a poultry arbitrator; but, as it appeared to me that very serious differences of opinion exist amongst the principal arbitrators, it would be better if these matters were freely discussed, and, if possible, the differences reconciled, so that the feeling of distrust and dissatisfaction amongst exhibitors might be greatly allayed. I began by asking a question, and then gave my reasons for so doing, hoping by this means that some of your correspondents would give the *pros* and *cons*, on the subject, from which I could draw my own conclusions. Mr. Hewitt replies that he still maintains his previously expressed opinions, strengthened by the evidence of several of our principal poultry arbitrators.

The next point in my letter is the desirability of a standard by which poultry judges and exhibitors shall be guided. This is practicable in other things, why not in exhibiting poultry? Where standards vary exhibitors are perplexed and dissatisfied, for their chance of success depends partly on the appointment of judges; but let there be one general standard, then all may know what to expect. Mr. Hewitt says, "The hopes expressed by your correspondent that never-varying decisions will be ultimately attained, I feel assured are visionary, and quite beyond universal realisation." Will Mr. Hewitt be kind enough to point out where I express such a hope? The case of the reversed decision of the cattle awards at Birmingham and London is not to the point, because the reversed decision arises altogether from alteration of *condition alone*, and not from one judge disqualifying for a point which is merely considered a defect by the other.

I now come to the Black Bantams at the Keighley Show, which appeared to illustrate the same thing. I am sorry that my eyes and ears have so deceived me, for not only were their legs, in my opinion, light-coloured, but it was a subject of remark by many exhibitors present. My only motive in giving only a part of the paragraph from the report of the Keighley Show in the Journal was to show that the class was not unopposed, but that some very excellent and capital birds were shown against them.

In conclusion, let me assure Mr. Hewitt that although I am often an unsuccessful exhibitor, I am not a dissatisfied one; I acknowledge that I am often beaten, but not discouraged. I

only want a standard of excellence to aim at, and even then, should I be disappointed, I hope you will hear no cavilling from J.H.

[We agree with our correspondent in thinking that it would be very advantageous to have what are "disqualifications" recognised unanimously by poultry judges; but we retain our opinion that to attempt to assign any number of points to any characteristic of a variety is a delusion, and must often be an unjust trammel upon judges, and a cause of dissatisfaction to exhibitors. Take two Game cocks, as an example, and suppose one was rather superior to the other in all points except symmetry and condition, would any competent judge, unless bound by encumbering rules, award the prize to the first-named?]

### DRONE-BREEDING HIVES.

As the problem—whether the eggs found in a drone-breeding hive are laid by fertile workers or very small queens, has not yet been satisfactorily solved, every case bearing on the subject must promise a certain amount of interest. I do not profess to determine the point, and shall therefore simply relate what came under my observation during the spring and summer in a hive containing a swarm, which was led off by a pure fertile Ligurian queen on the 30th of July, 1864.

The hive was in a very prosperous state at the beginning of winter, and at the arrival of spring had a vigorous and very numerous population. On the 7th of April, however, drones made their appearance, at once awakening suspicions that all was not right; but as the bees appeared to continue their labours, I delayed inspecting it till the 22nd of May. I could wait no longer, drones now forming the major part of the colony. Forthwith the frames were elevated, but not a single comb contained worker brood, every one was studded with disfiguring drones. What perplexed me most was finding in the hive no queen. I made a most minute search for her, and if she had been there I would have found her; but queen of greater dimensions or different in appearance from that of an ordinary worker there was none. Drone-breeding went on, and every after-inspection was attended with the same result.

To enable the hive to raise an artificial queen, I supplied it with a comb containing eggs and larvæ. The eggs and larvæ were duly hatched; but no attempt was made to rear a queen—only a queen cell was formed in an adjoining comb. Matters were then allowed to take their course till June 26th, when I furnished the hive with a queen and a few bees, which were taken from one about to throw a second cast.

From the sound subsequently heard, the queen was no doubt imprisoned; but she afterwards regained her liberty and soon restored the hive to a flourishing condition. After this experience I may be excused for expressing my belief in the existence of fertile workers.

Before concluding I may mention that the weather has been exceedingly warm and beautiful for a fortnight. The earth, however, so far as flowers are concerned, is a sterile waste, and, as a consequence, the bees will not suffer a single egg laid by their queens to be developed.

By feeding a little, I stimulated the queen in my observatory hive to lay hundreds of eggs; but the day after I ceased to feed the eggs began to disappear, and in a few days there was none.

One hive, tolerably well supplied with food, and in process of raising an artificial queen, foolishly banished its drones, just as the young lady was about to make her appearance. So much for the perfection and imperfection of instinct.—R. S.

### GAS TAR NOT INJURIOUS TO BEES.

In answer to the inquiry of "Novice," I may say that gas tar has no ill effect upon bees.

Several years ago I covered a bee-house, in which were twenty-four hives, with gas tar, in the month of July, when the bees were in full work, without any injurious effect upon the bees.—GEORGE RAYSON, *Keledon Hatch Rectory, Brentwood.*

DEATH OF MR. PEPLOE CARTWRIGHT.—The poultry fancy will hear with regret of the death of Peploe Cartwright, Esq., of Oswestry, on the 29th of August last. He has been known for some years past as the successful breeder of Partridge Cochins.



His numerous triumphs testify as to the goodness of his stock. Exhibitors lose a formidable opponent, and the medical profession a distinguished ornament.—E. T.

### A BEE-KEEPER'S MISHAP.

I SHOULD much like to have the advice of "A DEVONSHIRE BEE-KEEPER" on the following points in your next impression. On Monday last a friend came to inspect my apiary, and I lifted off the cover of one of Nutt's collateral hives to show him the working of the interior; unfortunately, at this moment, I was called away on important business, and, in my hurry, forgot to replace the cover on the boxes. When I returned about four o'clock in the evening, to my dismay I found the bees in a state of the greatest commotion, the main body of them in immense clusters on the outside and bottom of the centre box, hundreds of them on the wing about the entrance, and the ground, alas! strewn with dead bodies. I immediately detected the honey dripping down from the table on all sides, and saw at once that the intense power of the sun (it was the hottest day we have had this year) had detached the combs from the top bars.

Early next morning I made an investigation, and found matters even worse than I anticipated. On lifting the centre box several of the combs were in a complete mash, and hundreds of dead bees were on the floor-board. I immediately cleared away all the debris, and restored matters as well as I could, but I fear one of my best stocks is destroyed. What ought I now to do? the centre box is not more than quarter filled with honey, quite insufficient for the support of the bees that remain for the winter. I thought of driving them and uniting them to another hive, but all the hives (I have now five) appear to me to be overstocked with bees and honey. I examined them all the other day, and was surprised at their weight and the extraordinary number of bees in each. Your assistance in this dilemma will be invaluable to me. I may add that the bees that remain, and they are still a strong body, are working away in their now half-empty home. Would I by feeding them be able to carry them over the winter?—SQUIR.

[If your hives are fitted with either bars or frames a contribution of a comb from each of the other stocks would at once supply the deficiency without injuring them. If not (as I imagine is really the case), prompt and liberal feeding may meet the emergency. By adding the driven bees of a condemned stock success would be rendered more probable. If the bees turn out, as they are very likely to do, too few to grapple with the difficulty themselves, and you cannot add to the population, you need not fear uniting them to another colony whenever the weather becomes cooler.—A DEVONSHIRE BEE-KEEPER.]

**BEE-HIVES.**—Your correspondent "M. D." gives a description of what he call "a native hive." Would he have any objection to state where it can be purchased?—M. S.

**TEA.**—A French chemist asserts that if tea be ground like coffee, before hot water is put upon it, it will yield double the amount of exhilarating qualities. Another writer says, "If a piece of lump sugar, the size of a walnut, is put into the teapot, you will make the tea infuse in one-half the time."

### OUR LETTER BOX.

**COCKERELS' EYES BURSTING** (*Cog Héron*).—We cannot tell the cause of the mortality of your cockerels from their eyes bursting. We know the disease only in Spanish fowls. They suffer much from it. Your acreage allows you ample space. We advise you to rail off a small enclosure, and to put the Hamburgs in it. It would be very vexatious if it were to spread.

**INQUIRY.**—Can any of your readers give me any information respecting a person giving his address as H. C. Lewis, 218, St. Paul's Road, Islington, N.? I advertised in your Journal of the 29th of August last for poultry, when the above-named person replied, stating he could supply me with what I required, and would forward them on receipt of a post-office order for the amount, which I sent; but, instead of the poultry, I received a letter from my correspondent making an excuse for the delay in sending them. If any of your readers can throw any light upon this I shall be greatly obliged.—C. A. G. [We are quite at a loss to account for any one sending money to a total stranger before they receive the goods.—EDS.]

**BOOK (Beta).**—The work on poultry, with coloured plates, is now printing.

**HOUDAN AND LA FLÈCHE FOWLS** (*W. Hendry*).—There are drawings and full descriptions of these breeds in Nos. 62 and 65 of this Journal. We think they are likely to succeed in small runs. Our correspondent says that he finds sifted coal ashes act as a deodoriser if put fresh on the floor every second or third morning, but we are quite sure that such ashes do not deodorise so effectually as dry earth, and turning this over frequently.

**WORCESTER POULTRY SHOW.**—By a slip of the pen Mr. E. Tudman is named in our report of this Show as being of Welshpool instead of Whitchurch, Salop.

**MIDDLETON POULTRY SHOW.**—Mr. Massey, Fulford, York, we are informed, took the first prize for Carrier Pigeons, and Messrs. C. & E. Roys, of Greenhill, Rochdale, the second, instead of Mr. Samuels being first and Mr. Massey second, as stated in the list of awards at page 265, which, however, agrees with the list which we received.

**TREATMENT OF DUCKS** (*Susser*).—Ducks of all kinds should be kept in a house separate from other poultry, and with a brick floor, to admit of frequent washing. Give them plenty of room. Boiled roots, mixed with a little barleymeal, is good food for them. Add a little milk when fattening them. Eleven eggs for a large Duck, and nine for a small Duck, are enough for them to sit upon. The eggs do not keep so well as those of the common hen, so sit them on the freshest. Make the nest on the ground, and in a damp place. The Duck requires to be fed every morning and evening whilst sitting. Let her have food and water near to the nest. Boiled but cold oatmeal porridge is the best food for ducklings until they are ten days old; afterwards barleymeal, oats, and pollard, with plenty of green food. They are ready for table in eight or ten weeks if well fed. Never give them hard spring water, but water from a pond. They may be taken away from the Duck when three days old if they have a confined yard to be kept in, well supplied with water, and a dry, warm house to retire to, and if never allowed to come out of that house before nine o'clock in the morning. The tails of young ducklings need not be clipped off.

**WARMING AN AVIARY** (*L. W. A.*).—You do not say what aspect your conservatory has. If north then a stove, as you mention, will be good to keep out the severe cold in winter, but if it faces the south, and is sheltered from the north and east, I do not think it will require heating. Canaries can stand our climate very well if sheltered. Your greatest trouble will be to guard against the sudden changes of temperature. The small conservatory becomes very hot when the sun shines on it, and at night quickly becomes cool, especially when the windows are left open to cool the rooms adjoining. This sudden fall of temperature gives the birds colds, coughs, asthma, and inflammation, and causes many deaths. It is the sudden change that injures the birds. They do not mind cold if sheltered from the wind and rain.—B. P. BRENT.

**COLLARED TURTLE DOVES** (*Columba risoria*).—Your feeding them on light wheat and a little hempseed occasionally is good, but instead of hempseed I would recommend a little buckwheat or Canary seed as a change. The price of Collared Turtle Doves in the London shops varies from 3s. to 7s. 6d. per pair according to circumstances.—B. P. BRENT.

**STRENGTHENING WEAK STOCKS—DARK-COLOURED HONEY** (*A. B. C.*).—Our experience of superposing has not been very favourable. We should prefer driving and uniting in the manner recommended in page 59 of the fifth edition of "Bee-keeping for the Many." Clarifying your honey by standing the jar in a saucepan of water and boiling it, skimming off all impurities as they arise, would render it more fluid, and might probably improve its appearance.

**DRIVING BEES** (*A. T. S.*).—The following are Mr. Payne's directions:—"I very much prefer the middle of a bright day to any other time. The process is very simple, and may be effected in a few minutes. I very much wish that I could persuade all my cottage friends to adopt it, instead of the cruel and wasteful method of 'burning;' for in weak stocks the bees themselves are frequently of as much value as their little store of honey and wax; and by joining them to other stocks, very considerable advantages arise. My method of driving is this:—On a bright day, between eleven and one o'clock, turn the hive from which the bees are to be driven bottom upwards, in a shaded corner of the garden, and place upon it a hive of the same size; see that they fit closely, and, to make the junction more complete, tie a cloth round the hives where they meet. Then, with two sticks, keep up a gentle but continuous tapping upon the sides of the inverted hive for about ten minutes, the bees will by that time have left it and gone into the upper one. Having ascertained that fact, take it immediately to the place where the driven hive was taken from, and place it upon the same floor-board; carry the driven hive 50 or 60 yards away, and place it upon a fresh floor-board; the few bees that remain in it, as well as those that are out at work, will return to the driven bees. All is now finished until an hour after sunset, except emptying the driven hive of its store, when two sticks may be laid upon the ground about 8 inches apart, opposite the stock to which the driven bees are to be joined; then, with a smart stroke, dash out the bees between the sticks, and instantly, but very gently, place the stock they are intended to enter upon the sticks; leave them for the night, having first defended them from rain, should any fall; and in the morning, an hour before sunrise, replace the stock in its original position, and all will be peace and harmony."

### LONDON MARKETS.—OCTOBER 2.

#### POULTRY.

ANOTHER Michaelmas has passed, only to convince us we were right when we said years ago that the goose-eating part of it was fast falling into disuse. The number this year were so small, that had there been any demand they would have sold very dear.

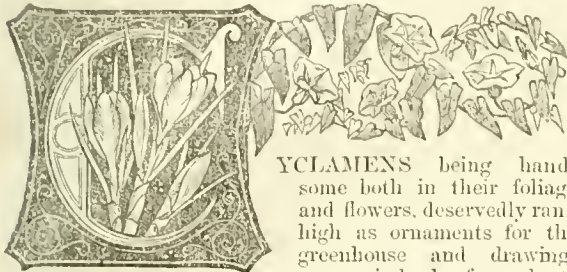
	s. d.	s. d.		s. d.	s. d.
Large Fowls.....	2	6 to 3	0	Grouse .....	2 0, 1 6
Smaller do.....	1	9, 2	0	Partridges .....	1 6, 1 9
Chickens .....	1	4, 1	9	Hares .....	2 0, 2 6
Geese .....	6	0, 9	6	Pigeons .....	0 8, 0 9
Duckings .....	2	0, 2	3	Rabbits .....	1 4, 1 5
Guinea Fowls .....	0	0, 0	0	Wild do.....	0 8, 0 9

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	OCTOBER 10—16, 1865.	Average Temperature near London.			Rain in last 39 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.	
			Day.	Night.	Mean.	Davs.	m.	h.	m.	h.	m.	h.	m.	h.	Davs.	m.		s.
10	TU	Ash leaves fall.	61.6	44.0	52.8	23	17	46	45	9	17	45	29	1	21	13	1	283
11	W	Elm seeds turn yellow.	62.0	42.8	52.4	20	19	6	15	5	47	10	29	1	21	13	16	284
12	TH	Honeysuckle leaves fall.	60.6	42.4	51.5	22	21	6	12	5	52	11	59	1	23	13	31	285
13	F	Stiff Wheat Grass ripe.	60.6	42.6	51.6	20	23	6	10	5	morn.	28	2	24	13	46	286	
14	S	Swallow last seen.	60.2	41.3	50.3	18	24	6	8	5	57	0	53	2	25	15	59	287
15	SUN	18 SUNDAY AFTER TRINITY.	61.5	41.1	51.3	19	26	6	6	5	0	2	20	3	26	14	13	288
16	M	Hazel leaves fall.	58.8	40.2	49.5	17	28	6	4	5	3	3	45	3	27	11	25	289

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 60.5°, and its night temperature 43.1°. The greatest heat was 74°, on the 15th, 1812; and the lowest cold, 24°, on the 15th, 1860. The greatest fall of rain was 1.04 inch.

## CYCLAMENS AND THEIR CULTURE.



CYCLAMENS being handsome both in their foliage and flowers, deservedly rank high as ornaments for the greenhouse and drawing-room; indeed, few plants

rival them in the gracefulness and beauty of all their parts, besides which their growth is confined to a small compass. The nomenclature of Cyclamens is the most difficult part of the subject: for they are grown under many different names. I hope, however, to avoid adding any confusion to that which already exists, but if in error, I shall be happy to be corrected.

**CYCLAMEN COUM.**—Leaves orbicular, green above, without any marbling, red on the under side; flowers bright red, produced for the most part external to the leaves, to which they form a margin. It blooms from January to March, and occasionally as early as November. There is a variety, *carneum*, in which the flowers are of a pale flesh colour, but variable in hue. Besides the above there are numerous varieties, called *C. coum* in the trade, that have slight markings of *C. persicum* on the leaves, but which are not worth having. *Cyclamen coum* is a frame perennial. It is not fragrant.

**C. NEAPOLITANUM** (*hederæfolium* of some), is hardy and blooms in autumn before the leaves are produced. The flowers are red or a fine rosy pink, rise directly from the root, and are succeeded by the foliage, rendering the plants fine objects throughout the winter. It usually blooms from the latter part of September to near Christmas. It goes to rest in April or May.

*C. neapolitanum album* only differs from the preceding in having white flowers. Both are inodorous.

**C. EUROPEUM.**—Leaves heart-shaped, inclined to be orbicular in some instances, but not nearly so round as those of *C. coum*. Sometimes they are entire or but very slightly crenated, having the marbling on the upper surface almost equal to that of *C. persicum*, and being much smaller than the rest, and finer in texture: in other cases the leaves are decidedly toothed, and but slightly marbled on the upper surface, and never orbicular in shape; whilst in others again they are double the size that they are in the two preceding forms, and the plant is all but an evergreen and continuous-blooming. This form of *C. europæum* is not generally met with, but is by no means scarce. The bulbs, or, more strictly, corms, of *C. europæum* vary much; in some cases they are round, smooth, and flat, but generally they are very irregular, being covered with knotty excrescences; they also throw up stems, in some cases of considerable length, on which the leaves and flowers appear. These stems are sometimes very numerous

and appear on the crown, rising erect, and also from the sides of the corms beneath the soil. These also vary in colour; some are brown, others a pale yellow, and occasionally but rarely white. *C. europæum* blooms in August, occasionally, but very rarely, in July, and is decidedly a summer bloomer, the flowering being prolonged into early autumn. The flowers vary in colour, in some forms they are red or rose, but not so bright as in *C. coum*, and the shades become paler in others till pure white is reached. The fragrance of the blooms of this species and all its forms is most delicious. It is the *C. Clusii*, fragrans, anemoides (of the Dutch), and autumnale of some.

**C. REPANDUM** (*hederæfolium*, *neapolitanum*, and *astivum*).—I take this to be the true *C. hederæfolium* of Britain, for it is the only one like *C. neapolitanum* that blooms in the spring; but all the forms of the Ivy-leaved Sowbread of Suffolk origin with which I am acquainted, invariably bloom in autumn, and are not distinguishable from *C. neapolitanum*. How is this? They are said to bloom in spring; but after a couple of years' growth they bloom in autumn. I fear the Suffolk Ivy-leaf is not now to be obtained, but others are palmed off for it. *C. repandum* differs little from *C. neapolitanum*, except in blooming in the spring, usually about the end of April. The flowers are bright rose. This species, which is quite hardy, is much confounded with *C. neapolitanum*, the autumn bloomer, and is much more scarce. It may easily be distinguished from *C. neapolitanum* by its blooming in spring, it being the last to bloom of all the Cyclamens, commencing with *C. europæum*.

**C. VERNUM.**—This should have been named autumnale, or hyemale, as it is an autumn or early-winter-blooming kind. The leaves are orbicular and entire, the lobes overlapping at the base, and they are marked on the upper surface with an irregular band of white, and are bright red on the under side, more so than those of *C. coum*. They are larger than the leaves of *C. coum*, and double the size of many of the smaller-leaved kinds of that species and of *C. europæum*, but only a trifle larger than good-sized leaves of these species. The flowers are a shade lighter than those of *C. coum*, and are of a decided reddish purple, especially at the tips of the segments, otherwise they differ little from those of *C. coum*, except in being a little larger. This Cyclamen blooms in November, and continues in flower for three months, or until February, and often March. It is exactly like *C. coum* except in three particulars—viz., it is larger every way, the flowers have a decided purple shade, and the leaves a white marking. After all it is a very questionable species. Did any one ever cross *neapolitanum* with *coum*? Surely the result would be *vernum*. I may state that it comes very true from seed, quite as true as *C. coum* generally does; but the seedlings are exactly like *Cyclamen coum* for two or three years, yet when they arrive at a blooming state their foliage acquires an irregular band of white marbling distinctive of *vernum*. Take this marbling away and it is not distinguishable from *C. coum*. I have seedlings of *vernum* one, two, and three years old, as well as blooming plants; the one-year-old are all like *coum*, so are the two-year-old, but of those



three years old there are some that have the marking of vernum, and others of the same age without it, and if they produce the flowers of eoum, how can vernum be considered a very distinct species? I believe it to be a hybrid; and if it be possible to bloom *C. eoum* early enough, or retard *C. neapolitanum* so that a union of these could be effected, I believe that there would be more than one vernum among the offspring. *Cyclamen vernum* is a frame perennial.

*C. ATKINSI* is a hybrid between *C. eoum* and *C. persicum* for which we are indebted to the late Mr. J. Atkins. The leaves are large, often from 2½ to 3 inches by 2 to 2½ inches, ovate obtuse, cordate at the base, the lobes overlapping and having a deep sinus, deep glossy green, with an irregular band or pale zone within the margin; the under side is of a dull reddish purple. The flowers are white with a crimson centre or eye, and very beautiful. It blooms from January to April according to treatment. In *C. Atkinsi roseum* the flowers are blush or pale rose with a dark centre. The varieties of *C. Atkinsi* are endless, exhibiting many different shades of colour. All of them are scentless. They are very ornamental for greenhouses, and specimens can be grown so as to have nearly one hundred blooms expanded at one time. *C. Atkinsi* and its varieties are frame perennials.

*C. AFRICANUM* is certainly nothing more than *C. neapolitanum* with more robust foliage. The flowers are the same, though some are blush with rose markings. There are, too, to my knowledge, nearly a dozen forms of *C. neapolitanum* differing as regards the foliage. What are called *C. africanum*, *macrophyllum*, *latifolium*, and *robustum* are only differently marked forms of *C. neapolitanum*, and different shades of the red and white Ivy-leaved Sowbread. The foliage, however, is large and handsome. They bloom in autumn, and continue in bloom a long time. They are half-hardy perennials.

*C. MERICUM*, leaves flat and heart-shaped, open at the base, or having an open sinus, and entire or very slightly crenated, deep green on the upper surface, with an irregular band of grey about one-fourth the width of the leaf from the margin, dull reddish purple on the under side; the veins sunken on the upper side, prominent and green beneath. The flowers are of a pale rose colour with a tinge of purple, and have a deep crimson (also tinted with purple), spot or bar at the base of the segments and extending to the mouth. It blooms in November and throughout the winter, but more generally in February and onwards, the temperature to which it is subjected making all the difference. This is a very questionable species and much confounded with *C. Atkinsi*. The original species is, I believe, very scarce, and the one that I had with flowers as described, has much smaller leaves, and the whole plant is dwarfer than those now sent out for it. The flowers vary much; in some plants they are white with the same ovate blotch at the base of each segment as in *C. Atkinsi*; in others the blooms have rosy or pale flesh-coloured segments with a purple base; and in others, again, they are light or deep rose with crimson or crimson-purple ovate blotches at the base of the segments. Surely no true species is so sportive as this, nor gives different-coloured seedlings from the same pod without crossing, not one in ten being exactly like the parent. The original species, if it is one, is very scarce if not lost.

*C. PERSICUM* has handsome foliage and fine flowers, some of which are delightfully fragrant. Leaves variously heart-shaped, toothed at the edge, deep green with white or grey marbling on the upper surface, pale flesh on the under side. Flowers variable in colour, borne on erect slender stems, from 6 to 9 inches in height, terminating individually with elegantly recurved coronets of white, oblong, lanceolate petals, blotched with violet crimson at the base; they are for the most part erect and close, but in other varieties assume a singular curved outline. It flowers in autumn, winter, and spring according to the treatment. The varieties are—

- C. persicum rubrum*, purplish crimson.
- C. persicum purpureum*, purplish red.
- C. persicum stellatum*, white with star-like spots in each petal.
- C. persicum delicatum*, white with pink centre.
- C. persicum album*, pure white.
- C. persicum roseum*, rosy red.
- C. persicum roseum coccineum*, rose with scarlet centre.
- C. persicum odoratum*, white with rose eye. Delightfully scented.
- C. persicum odoratum rubrum*, rosy red. Finely scented.
- C. persicum striatum*, striped and spotted rose on a white ground.
- C. persicum marginatum*, shaded rose.

There are many varieties of *C. persicum* besides those named; but the above will be found the most desirable and distinct.

In addition to the *Cyclamens* already enumerated, there is one, *C. nobile*, which is said to be fine, but not having seen it I must content myself with naming it. *C. odoratum*, if it is the same that I had under that name, is only *C. enropæum album*. They are half-hardy perennials.—G. ABBEY.

(To be continued.)

## VISITS TO GARDENS PUBLIC AND PRIVATE.

MESSRS. IVERY & SON'S, DORKING.

If a cool and shady bank, a deep and gloomy wood, or a moist and dripping cavern, be associated with the idea of Ferns, the delusion was dispelled on the day when I, at the latter end of August, paid a visit to Messrs. Ivery's well-known establishment, one of the special homes of our beautiful and elegant native varieties. The day was insufferably hot, the sky laden with heavy thundery-looking clouds, and suggestive of storms yet to break; and as we stood at the various pits where the treasures were placed, it required no small amount of zeal to stand the broiling influences of the sun that streamed down upon us. However, I was bent on seeing all the beauties and novelties, and under the skilful guidance of Mr. Ivery and Mr. Appleby I managed to have a most interesting morning amongst them.

It may give some idea of the rapid increase of varieties amongst our native Ferns to say, that when Messrs. Ivery's last catalogue was published it contained 158 species and varieties of British Ferns; their present catalogue contains 345, and this number is exceeded by the catalogues of other growers. Of some species the variations seem never-ending. Thus, of *Athyrium Filix-femina* (the Lady Fern), there are 69 varieties; of *Lastrea Filix-mas* (Male Fern), 21 varieties; of *Polystichum angulare* (Short Prickly Shield Fern), 58 varieties; of *Scelopendrium vulgare* (common Hart's-tongue), 70 varieties; and even of the common Hard Fern, *Blechnum spicant*, which would seem to afford little scope for variation, there are 20. Some of these many varieties were remarkable for their great beauty, not exceeded, I think, by our choicest foreign Ferns; and some, like a Skye terrier, remarkable for their ugliness and monstrosity. What strange differences in the same species! Here is the grand and stately *Lastrea Filix-mas cristata*, one of the very finest of our British Ferns; and here is his next neighbour, *eri-*pa**, a dwarfed and compact little thing, never exceeding a foot in height; then, again, look at the *Athyrium Filix-femina plumosum*, with its beautiful, light, feathery appearance, and compare with that the curiously fan-shaped pinna of *Frizellia*, and they seem too diverse even to belong to the same household.

Instead, however, of rambling at will over the different classes, let me take them in order, and enumerate what I saw very noticeable in each. Amongst the *Aspleniums*, *trichomanes cristatum* and *t. Harrovii*, the latter obtained by Mr. Holland, of Isleworth, were the prettiest that I chanced to notice. The *Athyrium Filix-femina* presents a wide field. Of the more common and better-known varieties I would enumerate *apuaforme*, *conioides*, *corymbiferum*, *crispum*, *dareoides*, *diffusum*, *Fieldia*, very beautiful; *Frizellia*, *grandiceps*, *plumosum*, *depauperatum*, and *thyssanotum* as well worthy of a place in all collections. There were some exceedingly beautiful and curious newer varieties, such as *Applebyanum*, very like *Frizellia*, the most remarkable difference being the manner in which the fronds branch at the apex into a flat head of several divisions. Then there were *residens-excurrens*, more odd than pretty; *glomeratum*, which somewhat resembles *multi-*ceps**, but the fronds terminate in an almost globular head; and *mucronatum*, which bears some analogy to *Fieldia*, but has more of a fringed appearance. All these may be safely added to a collection; and so may *A. Filix-femina Verneuxie* and *Victoria*, the former having a great likeness to *conioides*, only more beautifully cut; and the latter having the pinna forked at the base and divergent, so that they cross one another up the whole length of the frond. Of the Male Ferns, *Lastrea Filix-mas cristata*, *cristata angustata*, *Blandia*, *fureans*, and *paleacea* were the handsomest; while the curious little *crisp*, already noticed, and *pumila*, are worthy of a place for their odd character. The *Polystichums* include some of the very finest and most beautiful varieties we have, especially the

varieties of proliferum. Proliferum itself is remarkably beautiful, but it is eclipsed by the finer varieties of *Holeanum*, *Footii*, and *Wollastonii*. The latter is certainly one of the handsomest of our native varieties of Ferns. Nothing can be more graceful than its wide and wavy fronds. Besides these varieties of proliferum, there are several forms of *Polystichum angulare* which are certainly acquisitions—viz., *Elworthyi*, with its tapering dark green fronds; grandiceps, beautifully crested, with a large corymbose head; *Kitsoniae*, and *Wakeleyanum*, a curious and somewhat elegant variety; and so are *pterophorum*, nearly erect, with deep green fronds, and discovered, I believe, by the Rev. H. A. Walker, of Henfield; and *plumosum*, the most beautiful, perhaps, of all the *Polystichums*, with charming wavy fronds. *P. aculeatum* *aeroladon* is more striking than the ordinary crested form, and its habit being evergreen it is most desirable. Among the *Blechnums*, spicant *imbricatum*, a short stumpy-looking variety, which, as a friend said, almost made him laugh to look at it, *cristatum*, and *concinnum*, were all noticeable. The Hart's-tongues were innumerable. What could be more pretty than a pitful of *Scelopendrium vulgare crispum* raised from seed?—a fact which was almost doubted by one of our most successful hybridisers and raisers a few days afterwards, who said he had never seen a fertile frond of *crispum*. Then how grand is *crispum latum*! and how curious *marginatum*, and *muricatum*, and *endiviefolium*!

No one who has not seen such an establishment can have any idea of the extent to which Fern culture is carried—the thousands and tens of thousands of seedlings raised here from time to time, and the curious forms that come up amongst these seedlings; and if Mr. Berkeley be right we are only on the threshold of these things, for he believes a wide field to be opened for the hybridising of Ferns; and as one of our greatest living botanists, his words are not likely to be spoken at random. That the cultivators of our British Ferns are very numerous there can be no doubt; but I think they ought to be increased a hundredfold. With a pit in some shady place, or rockwork in some corner where nothing else will grow, they afford a source of unceasing pleasure, and that with comparatively little care and attention; and, as I have already said, their forms are so beautiful and various, that one need not envy those who can grow their collections of exotic Ferns. It were needless, I think, to give a list of the sorts suitable for this purpose. Those I have named may be, I think, relied on; but a beginner could not do better than place himself or herself (for our columns bear witness to the zeal with which ladies cultivate them), in the hands of any of our great Fern-growers, for they may rest assured that they would receive sound advice as to the sorts.

Messrs. Ivery are also well known for their fine collections of Azaleas, and for the many excellent seedlings which have been sent out from their establishment. Of these there are now several fine sorts, the two most remarkable being *Forget-me-not* and *Fascination*. The former is of a brilliant glossy purple, deeply spotted in the upper petals, dwarf habit, and very enduring in its bloom. The latter is one of the most lovely flowers we have. It is a seedling, not a sport, and quite eclipses *Etoile de Gand*, *Due d'Arenberg*, and other flowers of the same class. It is a beautiful rosy pink, with deep crimson spots on the upper petals, broadly edged with white, perfect in form, and very smooth. Beauty of Dorking, a large-foliaged form of *Beauty of Reigate*; *Flower of the Day*, an improvement on *Iveryana*, and *Variegata Superba*, are also good kinds of Mr. Ivery's raising; while the flowers of other growers, both home and foreign, are to be found here in large numbers. I believe *Fascination*, although advertised, will not be sent out this year, as Messrs. Ivery wish the plants to be larger before they distribute it.

In walking round the nursery I was attracted by a most delicate perfume, which seemed as if some bulbs of Lilies were at hand, but found that this was occasioned by a plantation of the Chinese Yam, *Dioscorea batatas*, the bine of which was trained so as to form a long arch, and the blossoms of which loaded the air with their fragrance. This is worth knowing, for the root may be used for this purpose. Mr. Ivery grows it very successfully in good deep soil. There was a nice collection of the French varieties of that favourite autumn flower, the *Gladiolus*, in bloom. Amongst them I noticed *Egérie*, *Oracle*, *Mathilde de Landevoisin*, *Ninon de l'Enclos*, *Le Pous-sin*, *Penelope*, and *Janire* as very good. These are amongst the cheaper varieties. Messrs. Ivery have a nice collection of *Ivies*, some of them very pretty both in their variegation and

the character of their foliage. There were some rows of *Pater-son's* seedling Potatoes, which have made so much noise, but which, if these were a fair sample, were fit for field use, but certainly not for the garden. There were four kinds—*Victoria*, *Blue*, *Blue Kidney*, and *Seedling Roek*. The latter was the largest cropper; but they were all coarse, very deeply eyed, good, as I have said, for cattle, &c., but not to be named with some of those long-established favourites which we have grown for many years. By-the-by, have any of our Potato-growing friends noticed the entirely different character of the disease this year? Here, with us, it does not assume that brown dry appearance, but the Potatoes become a mass of corruption, almost as if they had mortified—very unlike any form of the disease I have before seen, and I have watched it now since 1846. What a proof, too, of our feebleness and ignorance it is! We knew as little about it, and can provide as little against it, as when nearly twenty years ago it came upon us.

There were many other things to be noticed in Messrs. Ivery's establishment, but my time was limited, and I wanted to see *Deepdene*, so I had to leave; but I have, I hope, indicated enough to show how well worth visiting it is. As it is only an hour's ride from London by rail, it is accessible not merely to residents in or near the great metropolis, but to that large and increasing class who find that their circulation gets sluggish unless from time to time they come into contact with the great heart of England, where everything of every kind, good or bad, is to be found.—D., *Deal*.

## THE RIPENING OF PEACHES IN ORCHARD-HOUSES.

IN your Number of the 26th ultimo, your correspondent "G. H.," in his scientific dialogue with his French friend, has made some unfavourable comments on my system of free ventilation of orchard-houses, it therefore behoves me to say a few words. I have one great comfort when I read such matter. I have for some fifteen years practised with the greatest success the mode of cultivation I recommend, I still practise it; in short, all that I say should be done, I do, and never fail in my culture.

We fruit-cultivators all have our little climatic worlds; that of "G. H." must be miserably cold. Mine is in an eastern corner of Hertfordshire, the climate dry and cold in winter, and dry and moderately warm in summer, the temperature in hot weather being always 5° below the maximum at Chiswick; and out-of-door fruits ripen about ten days later than they do at Twickenham, and Teddington, to the north of the Thames. Now, my climatic world has rather a wide extent, for all through the eastern counties, through the south, through the west, through the midland counties, as far north as the Trent, and I may add in places much farther north, for at Liverpool, in the Highlands near Perth, and at Stornoway, Isle of Lewis, do Peaches ripen in houses not heated by hot-water pipes, but simply orchard-houses, with free lateral ventilation; so that, as it will be seen, my climatic world is not a small one, and I feel perfectly satisfied that the system I have recommended is the safe one. It will, however, be seen, that I have been cautious, for at page 15 of the later editions of the "Orchard-House," I have recommended a four-inch hot-water pipe to be carried round span-roofed houses "in the cool, moist climates of many places in the north." Again, I read in the twelfth edition, page 16, "In the cold stormy climates of the north of either Scotland or Ireland, it will, perhaps, be quite necessary to introduce hot-water pipes into houses in which Peaches, &c., are cultivated, not exactly to force them, but to insure their ripening properly. The shoots of such trees also require a dry and warm atmosphere in the autumn, or they will not ripen." This passage also occurs as far back as the eighth edition, so that "G. H.," if he lives in a cold, unfavourable climate, ought not to have committed himself as he seems to have done.

It may, perhaps, interest some of your readers if I give a register of the ripening of orchard-house fruit here this season in a span-roofed house 100 feet long, 5½ feet high at the sides, and about 12½ feet to the ridge. I must first premise that the side shutters, 20 inches wide, were open night and day from the 10th of July, closed by day during the stormy weather in August, open night and day at the end of that month, and they continue so to the present time. My Apricots, a most magnificent crop, ripened as follows (including Peaches, &c.):—June 26th, Sardinian Apricot, ripe; July 2nd, Oulin's Early Peach Apri-



cot, ripe; July 16th, Moorpark and Peach Apricots, ripe; July 14th, some early Peaches from seed, ripe; July 24th, Black Mulberries, ripe, very rich; August 7th, Early York and Victoria Peaches, ripe; August 10th, Early Silver Peach, ripe; August 14th, Early Grosse Migmonne, Belle de la Croix, Early Savoy, and Belle de Doué Peaches, ripe; August 22nd, Grosse Migmonne, and many other kinds of Peaches, ripe; August 30th, Noblesse, Royal George, and many other kinds of Peaches, ripe; September 10th, Barrington, and Princess of Wales Peaches, ripe; September 18th, Late Admirable and Walburt Peaches, ripe; September 24th, Desse Tardive and Montagne Tardive Peaches, ripe; and this day (September 28th) I have Poole's Late Yellow, Salway, and the Comet Peaches approaching to ripeness; and so ends my register for this season. I think it will be seen from this that the system of free ventilation I recommend I practise, and I know well that it may safely be applied to the orchard-houses in England, in the districts I have named. If any cultivator happens to have pitched his tent in a cold, cloudy, windy climate, he should do as I did in August last, husband the heat by closing the ventilators early in the day. I will now in a few words give the temperature of my free-ventilated houses.

Yesterday (September 27th), was one of those bright, warm days such as we have in June and July, the great difference in temperature occurring at night, as usual at this season. Well, at 2 p.m., my thermometer out of doors in the shade, 5 feet from the ground, gave 69°; in the house, with doors and ventilators all open, and the instrument under dense shade, it stood at 80°. With submission to "G. H.," and Mr. Fish, who, by the way, has, I fear, but little experience with large houses, this is not a retarding climate. During the night of the 27th, the thermometer outside fell to 35°; in the orchard-house to 45°. I have become so accustomed to complete success in my culture, that I have not observed daily the thermometer in my house; it is always there, but sometimes not in a sufficiently shaded position to be accurate; but as far as I have noticed during the past summer, I have found the house, with its wide doors at each end and all the ventilators open, generally in sunny weather from 10° to 15° above the open air; thus, if we have had it in the shade out-doors at 80° (this has happened frequently this summer), in the house it has been 92° to 95°, at night going down within 10° of the open air. This, as far as my experience has gone, is the most perfect of ripening climates, as the coolness at night gives a racy flavour to fruit far superior to that from houses kept close and hot.

The practice and the logic of "G. H." are most amusing. "lean-to houses are not orchard-houses, even if fruit trees are grown in them," see page 218, September 26th. Why? Because "they have been used for forcing dwarf trees, either in pots, or planted out, ever since Miller's day." Heavy reasoning this, "hard sounding," as the Duke once said.

As to his practice of putting his trees to rest by opening all the ventilators of his forcing-house night and day, I can only say it was delightfully original. "G. H." has not made use of his eyes; the "immense houses half empty," with the temperature in June and July, from 110° to 120°, are fictions of fancy. Spanish air-castles. No such houses, and no such treatment exist.

Here, where there are as many thousands of orchard-house trees grown as there are hundreds in most places, twenty houses are but 14 feet wide, and 9 feet high, and the largest houses are but 24 feet wide, and from 12 to 13 feet high. In all, as soon as summer heat sets in towards the end of June, all the ventilators are open night and day, and in July half the trees—this applies only to young trees for sale—are placed in the open air in full sunshine. "G. H." should come and see. Now, this treatment is, as a matter of business, the most economical, for without the free air night and day, red spider would be a perfect pest, and not a shoot would ripen. I am inclined to think that the experience gained by "G. H." is not of high value, and will not be thought so by your readers.

The style of "G. H." is sharp and decisive, I must imitate it. His trees were put to their unhealthy rest in August by management so base as to be almost incredible. Fancy a man getting out of his warm bed, going to his dressing-room, opening the window in a cold morning, and standing before it naked, he would most likely die. The wonder is that the wretched trees of "G. H." did not. His trees did not drop their blossoms from the effects of cold winds. In March and April, when Peach trees bloom, the cold dry winds in a sunny day, if properly admitted, dry and disperse the pollen, and do infinite good. It was stagnant air that made them drop.

Muggy, warm, showery weather, will do it effectually, if a house is not well ventilated.

To conclude, I beg through your columns to give "G. H." a hearty invitation; if he merely lives at a short distance from here—say, Stony Middleton, in Derbyshire, where they harvest their Oats in December, or on the "Backbone" between Yorkshire and Lancashire, where they never harvest them, he can easily come; but if he lives in the Orkneys, the Shetlands, or the Loffodens—from his non-ripening climate, it seems probable—I cannot expect him. I can only say that I will give him a hearty welcome, feed him, drink him, I mean give him drink, show him all, tell him all, and "put him in the way he should go." I only stipulate that he should send in his card to me, with "G. H." on it.—THOS. RIVERS, Sawbridgeworth.

## DOUBLE-FLOWERED PEACH FRUITFUL.

SOME months ago a correspondent inquired whether the *Amygdalus persica flore pleno* produced fruit, and if so, was it edible? The fact of its producing double flowers would have negatived the question if the flowers were always double, but exceptions sometimes occur.

A small tree was planted here about seven or eight years ago, and has uniformly thriven well ever since; it has also in most seasons flowered profusely, and in the spring of the present year excessively so. Upon examining the bloom it was found that many of the flowers were single, and the spring frosts being slight, fruit was the consequence. The continuous warm weather has ripened it; and on the tree, which is now about 12 feet high, before the fruit began to fall, there were three dozen Peaches, most of them quite equal in size to ordinary wall Peaches, but differing from them slightly in having a deeper cleft. To the taste they are by no means disagreeable, but rather harsh, and if not perfectly ripe too tart. The *Amygdalus persica* is one of the most beautiful of our flowering trees, and deserves a place in every garden. Cultivation for the sake of the fruit must not be taken into consideration; for although edible it is greatly inferior to that of the cultivated Peaches, and the bearing is uncertain.

It is worthy of remark that the present year has been highly favourable to the production of fruit upon exotic trees and shrubs that have either never before, or very rarely, borne fruit in this country. Some notable instances of Coniferae have been given by Mr. Robson. Some useful facts would be gleaned if correspondents would make known cases that come under their notice.—ADOLPHUS H. KENT, Blechingley, Surrey.

## HIGH LEIGH, HODDESDON, HERTS.

ON one of those prettily-wooded knolls, with which the county of Hertfordshire abounds, about two miles from the Broxbourne station of the Great Eastern Railway, is High Leigh, the seat of Duncan J. Kaye, Esq. At the entrance is an elegant lodge, in the construction of which convenience as well as beauty seems to have been kept in view; draped in the verdure of numerous trailing plants, and surrounded with gay and odorous flowers, it attracts many a passer-by to pause and admire. This is on the right-hand on entering, and on the left is a belt of mixed evergreens and deciduous shrubs, including a choice and well-varied collection of Hollies, and good and vigorous examples of *Thuja Lobbii*, *Thuja gigantea*, *Cupressus Lawsoniana*, *Juniperus chinensis*, *Wellingtonia gigantea*, the Cockspur Thorn laden with clusters of red berries, and the elegant but little used *Symphoricarpos vulgaris variegatus*. It is worthy of remark here that these and other valuable trees and shrubs were planted two years ago on a bed of gravel, and are the best evidence we remember to have seen in overcoming this disadvantage of soil by deep trenching, and the addition of a little good loam, and occasional watering in dry weather; Laurels, Mahonias, and even Roses grow there with an extraordinary vigour.

As we proceed up the carriage-drive we observe to the right, at some distance, the farm and farm buildings, all in beautiful keeping, and we wish momentarily that we might diverge to take a closer view of them, but our business is with the garden. We enter the court-yard, and a fine Elizabethan mansion with square tower, built some thirteen years since by Mr. Lucas, of London, and recently redecorated by Mr. Rayment, of Hertford, immediately confronts us; the servants' compartments and laundry on the north side are covered with neatly-trimmed Ivy.

Leading eastward from the house is a sunk walk winding through the shrubbery, the agreeable coolness of which at once obtained recognition; near one end is a rustic arbour, circular in form, and embowered in trees, the panels in the interior decorated with branches of trees laid on moss in such a manner as to show the character and direction of the spray. A pretty idea this, and not only pleasing but instructive also. Returning through the croquet ground we see to the right large masses of Holly, in front of which on a gentle incline is a ribbon-border filled with the customary gay and effective bedding plants. Here is a terrace wall, against which is trained the *Gnaphalium lanatum*, its silvery foliage contrasting well with the red bricks; while grand spiral columns of the *Humea elegans* rise at given distances above the wall. Ascending four steps we are in the Italian flower garden, which surrounds the house on the east and south sides. The small paths are of white spar and gravel, and designs in dwarf Box abound. There is a fountain in the centre, and single specimens of *Thuja aurea*, 4 feet high and as much through, and perfect in colour and form, Irish Yews, and Irish Junipers are judiciously introduced. There are also beds of the beautiful *Juniperus tamariscifolia* forming a complete carpet of silvery-green foliage; these are occasionally watered with manure water. The majority of the beds are filled with the usual bedding plants, gay enough in their season, but winter is also deprived of its gloom by margins of Ivy, the Box, and other evergreens above mentioned, which retain for the garden a furnished appearance when the flowers of summer are departed. Figures and ornamental vases sparingly and judiciously introduced aid also in the attainment of this end.

From the terrace fronting the house is a wide and extensive view commanding the valley of the Lea, with the Essex hills beyond; Nether Hall, Nazing church, Epping Forest, and Monkham's Hill are prominent objects. In the park fronting the house are good specimens of timber trees, the tops only of some visible, owing to the ground falling rapidly at a short distance from the house; the *Cedrus deodara*, Scotch Pine, and the narrow-leaved English Elm were also conspicuous; while to the west were groups of various trees, between which the open country beyond, nicely undulated, was distinctly visible. We approach the conservatory, which adjoins the mansion, and is built on the ridge-and-furrow principle, the dimensions 50 by 60 feet. The pillars in the interior are covered with various creepers, of which the *Jasminum grandiflorum*, *Passiflora*, *Fuchsias*, *Habrothamnus*, and *Geranium Unique* are in full bloom. In the centre, planted out, are magnificent specimens of *Camellias*, some 12 feet high, others 12 feet in diameter, perfect in shape, with leaves black as ink, and plentifully adorned with flower-buds. As the leading prizes for *Camellias* at the London spring shows were won by flowers taken from these specimens, it may be interesting to know the mode of culture adopted. So soon as the flowering is over the house is kept warm for about two months, and the trees syringed freely. During this period the growth is made and flower-buds set; the plants are also watered freely during the season of growth with water in which sheep-manure is steeped; they are watered twice only in winter. The flower-buds are thinned out early in autumn, and not more than one bud is ever allowed to a leading shoot. The variety known as *Elegans* has produced flowers 8½ inches across, and other sorts are proportionally fine. Sundry *Azaleas*, and greenhouse plants, and hanging-baskets—at this season mostly filled with Ferns—are also in the conservatory. There is a vestibule between the drawing-room and conservatory, and this is furnished with various articles, rare and beautiful. The beds of the conservatory are margined with a pretty green moss, and the paths are of white spar. There are, in addition, several plant-houses well contrived and well built. In the stove we observed very fine specimens of *Croton variegata*, *Cissus discolor*, *Ixora coccinea* well set with bloom, *Franciscas*, *Cyanophyllums*, and a plant of *Cypripedium insigne* in full flower. In the roseroy many of the autumnal *Roses* were still beautifully in bloom. Terrace walls, which abound, were covered principally with *Roses*, *Pyracantha*, *Cydonia*, *Forsythia*, *Ampelopsis*, *Magnolias*, *Jasminums*, and *Weigelas*.

We are now on our way to the pinetum, and passing some beautiful specimens of Gold Hollies on the lawn west of the house, we are confronted by a plant of *Picea nobilis glauca*, till recently out of health, but restored by digging round it, and filling the trench made with fresh loam and cowdung. Here, also, are fine trees of *Juniperus chinensis*, *Pinus pyrenaica*, *P. excelsa*, *P. strobus nivea*; *Abies Nordmanniana*, *A. pinsapo*

(20 feet high, a perfect specimen), *A. Douglasii* 50 feet, *A. cephalonica* 20 feet; a huge bush of *Taxus adpressa* bearing fruit, and smaller plants of *Pinus Hartwegii*; the variegated Red Cedar (*Juniperus virginiana foliis aureis*), and many of the choicest kinds. Passing under a rocky archway we encounter a sunk cave or grotto, built by Mr. Pullman, and which realises the end sought in being deliciously cool. We also sight screens of Ivy, which answer perfectly, and an arcade of climbing *Roses*.

Although trees and flowers form the greatest attraction of this place, fruit is by no means overlooked. The Cucumber-house, in which the *Telegraph Improved* is the favourite, is full of fruit, many from 20 to 24 inches long. In the late vinery only was there any fruit, but the early vinery showed signs of having done well. Capital Black Hamburgs, both as regards size and colour, and Muscats, and Lady Downe's, the two latter sorts in pots, were still in fine condition. One Muscat Vine in a pot had borne fourteen bunches averaging a pound weight each, and the berries on Lady Downe's, were like Damsons, both in size and colour. There is also a walled kitchen garden well stocked with the best and most useful fruits, while the sides of the walks are planted with pyramidal Pears and Apples. The following Pears were very fine—*Beurré Superfin*, *Triomphe de Jodoigne*, *Seigneur d'Esperen*, *Grand Soliel*, *Beurré Diez*, *Beurré d'Artemberg*, *Beurré d'Amanlis*, *Passe Colmar*, *Louise Bonne de Jersey*, *Champanel*, and many others.

Many objects which we have missed in this somewhat hasty survey, might form matter of comment, but this article is already exceeding the bounds anticipated. Mr. Trusler, who manages the garden, has recently invented a van with glass roof and heating apparatus for conveying plants to the spring shows, which your readers will, doubtless, hear more of in the future. That such a contrivance was necessary more than one exhibitor will, we believe, be ready to testify, for at the spring shows this year many of the plants sent arrived at the shows frozen stiff, and were not only unfit for competition, but returned only to be consigned to the rubbish-heap.—W. P.

## POLEMONIUM CERULEUM VARIEGATUM

(VARIEGATED JACOB'S LADDER).

FEW if any of the native plants of Britain are to be met with in the flower gardens of the present day. Perhaps they do not deserve a place among the gay and select few that are considered effective enough to play their part in the summer flower gardening now so fashionable. The rage in certain quarters is all the other way, and the natives of more sunny climes are being pressed into out-door service; but these latter will never become common in the gardens of this country. Two considerations will, of necessity, tell against anything like a popular attempt at turning our stove plants into the open air, even in our finest summers. First, the expense of rearing and wintering them, and above all the very few localities where the climate will allow of them being planted out with any reasonable hope of their remaining respectable, to say nothing of making progress. For this reason the examples being so ably set to us of planting tropical plants out-doors is not at all likely to benefit the millions, especially of Scotland. If we are to have any new blood introduced into the present parterre system of planting in the shape of new materials, they must be hardy enough to at least look respectable during summer and autumn, to do without stove heat in winter, and if hardy enough, to cope with our frosts unprotected all the better.

The subject named above cannot be charged with tenderness. In this respect it is a thorough Briton; and in point of appearance all summer and autumn it has a grace and beauty all its own. Almost every gardener must be acquainted with the common form of Jacob's Ladder, and this is a variegated variety of it with much more white or cream colour in its composition than green. I have had it here for several years, and it has grown in favour very much, and has this year been used as single plants in blue groundwork and as an edging to beds; and few bedding plants have pleased so much. Some amateurs have exclaimed, on first seeing it, "Oh! what a pretty Fern!" and it has all the appearance and much of the grace of some of the Fern tribe about it, its leaves being pinnate. It lasts in full beauty the whole summer and autumn, and shows no disposition to flower.

Some years ago I directed attention to the *Centaurea ragnasina* as a bedding plant, and the patronage it has met with has



proved the correctness of the opinion expressed so confidently about it. This is a much more easily-managed plant, and I can recommend it very confidently as a decorative plant, and venture to predict for it great popularity. As a dinner-table plant in pots it is very useful, and planted in lines it has just the air and grace of a compact Fern, while there is but little green in its colouring.—D. THOMSON, *Archerfield, N. B.*, in *Scottish Gardener*.

## THE ROYAL HORTICULTURAL SOCIETY.

OCTOBER 3RD.

**FLORAL COMMITTEE.**—Very few specimens were sent to this meeting. The collections of cut Roses from Messrs. Paul & Son and Mr. Turner of Slough were extraordinary for the time of the year, and more especially for this dry season. Mr. Turner's collection of Pom-pone or miniature Dahlias was very attractive and much admired. Both of the collections of Roses and miniature Dahlias were awarded special certificates. Mr. Rawlings sent two seedling Dahlias:—*Silver Swan*, no nose, and *Little Beauty*, of dwarf habit, small flowers, orange ground, heavily tipped and shaded with red, useful as a bedding variety—first-class certificate. From Mr. Turner, Slough, came four seedling Dahlias:—*Le Domino Noir*, a white and maroon Fancy—second-class certificate; *Arrah-na-Pogue*, *Artemus Ward*, and *Arthur*. Mr. Turner also exhibited a single cut specimen of a seedling Rose, *Prince of Wales*, a bright cherry red, of excellent form, promising to be a first-class flower. Mr. Pocock, gardener to Mr. Barber, Wincanton, exhibited a box of seedling Verbenas of no particular merit, not equal to the best varieties now in cultivation; and Mr. Melville, gardener to the Earl of Roscherry, Dalmeny Park, four seedling Tropaeolums, by no means novelties; the flowers were out of condition. Mr. E. Davies sent two seedling Fuchsias—one, *Lady Sherborne*, with a double white corolla; the other, *Lord Sherborne*, with a double purple corolla, but both were worthless. Mr. G. Smith, Hornsey, again exhibited his seedling *Nosegay Pelargonium La Grande*, which gained a first-class certificate in June; it still maintained its good character both for its dwarf habit and splendid large truss of brilliant flowers. *Christabel*, having a white ground with deep salmon centre, a good form and petal, but not equal to *Beauty* and others of the same class, came from the same exhibitor. Messrs. Downie, Laird, & Laing, exhibited an *Alternanthera* with dark variegated foliage, the colour of *Iresine Herbstii*, of very dwarf habit, but not likely to be useful. From Mr. F. Priest, gardener to E. Wood, Esq., Hanger Hill, Acton, came *Asplenium dimorphum*, a Norfolk Island Fern, the plant producing broad and narrow sections in the same frond. It is a useful greenhouse plant. Mr. Earley sent cut specimens of *Ipomoea Bona Nox* (*I. noctiflora*?), also of a variety of *Ipomoea Quamoclit*, with larger and bright deep crimson flowers. Mr. Bragg, Slough, sent seedling Dahlias *Commander*, *Fair Lady*, *Lady Geraldine Wellesley*, and *Model*; and Messrs. Paul & Son a basket of *Nerine Fothergilli*, a very handsome plant, with bright scarlet heads of flowers. This plant should be more extensively grown, for it is one of the most useful and ornamental flowers for greenhouse decoration at this time of the year, and very distinct from the *Guernsey Lily*. Messrs. Paul & Son also exhibited in their stand of Roses seedling *Princess Mary* of Cambridge. From Mr. Southby, Clapham, came *Cineraria maritima nana*, a very dwarf-growing plant. If it maintain its dwarf habit it will be very useful, but some doubts were expressed on this point. Rev. C. Rose exhibited two stands of seedling Dahlias, none of which were thought worthy of distinction; and Mr. Mackintosh, Hammernsmith, sent a basket of his seedling hybrid *Solanum capsicastrum* covered with scarlet fruits, also hybrid *Veronica Madame Jacotot*. These plants came too late to be entered for examination.

**FRUIT COMMITTEE.**—G. F. Wilson, Esq., F.R.S., in the chair. Prizes were offered on this occasion for the best collection of Grapes, except Muscats, also for the best collection of white Muscats, but in neither class did any exhibitors come forward. Prizes were likewise offered for Muscat Hamburgh. Here the only exhibitor was Mr. Osborne, Kay's Nursery, Finchley, to whom a second prize was awarded, the berries being deficient in colour and flavour. In the class for three dishes of dessert Apples some very good fruit was shown. Mr. Earley, gardener to F. Pryor, Esq., Digswell, was first with Cox's Orange and Ribston Pippins, and Sam Young; and a second collection from the same exhibitor consisted of the last-named, King of the Pippins, and Fern's Pippin. Mr. Cox, Redleaf, was second with splendidly coloured Ribston Pippin, Cox's Orange Pippin, fine, and Pimston Nougat. For Pears, three dishes, Mr. Whiting, gardener to Mrs. Hope, The Devedene, Dorking, was first with Thompson's, Marie Louise, and Comte de Lamy; and Mr. Earley second with Brown Beurre, large and very good, Gansel's Bergamot, and Marie Louise. A second set of three dishes came from Mr. Whiting, and Messrs. Ivory of Dorking and Mr. McLaren likewise exhibited. Of Pearmain Apples only one collection was staged. This was sent by Mr. Whiting, and was awarded a first prize. It consisted of Adams' Pearmain, beautifully coloured, Parry's, Claygate, Traveller's, Lamb Abbey, Winter, Mickleham, and Maunington's.

Among miscellaneous subjects was a handsome Providence Pine of, 9 lbs. 6 ozs., for which a special certificate was awarded to Mr. Ruffett,

gardener to Lord Palmerston, Brockett Hall; and Mr. A. Stewart sent Slindon Park Peach, a freestone, as large as the Late Admirable, and of excellent flavour for a late kind. A first-class certificate was given for this; also to Messrs. Paul & Son for Raspberries Belle de Fontenay, and October Red and October Yellow, known also as Merveille de Quatre Saisons Rouge and Jaune. Brinckle's Orange, Cushing, both of which are summer kinds, Large Monthly, and Autumn Black, came from the Society's garden at Chiswick. The last-named variety is one of Mr. Rivers's raising, and produces fruit of the colour of the Blackberry, from which parentage it has sprung. Fine specimens of Black Prince Grapes, and of good flavour, from an open wall, as well as a collection of Plums, also came from the Society's garden. Mr. Baxter, gardener to — Kaiser, Esq., sent an amber-coloured somewhat oval Grape, but it was not considered equal to existing varieties. F. J. Graham, Esq., of Cranford, exhibited his Autumn Nelis Pear and Cranford Muscat Grape; and Mr. Ingram, gardener to Her Majesty, Frogmore, a white Grape called Napoleon, apparently a better variety of the Royal Muscadine, and stated to be useful for growing on open walls. Samples of Hands's Freedom Potato, a variety raised by Mr. Hands, of Newcastle-under-Lyne, were also submitted to the Committee, who deferred, however, passing an opinion upon its merits till it had been seen and tasted later in the season.

## STRAWBERRY ROOTS DECAYED.

IN July I planted strong runners of Strawberries British Queen, La Constante, Frogmore Pine, Sir J. Paxton, President, John Powell, and Royal Hautbois in beds, well trenched and manured, and with a quantity of old turfy loam worked in with the natural soil, which is light. All grew strong and healthy until about the 5th of August when some sorts, especially the British Queen, La Constante, and Frogmore Pine threw up leaves curled and mottled at the tips, and the growth has since been checked. Can this be attributed to the manure being fresh? I could get none that was decayed, and used two-thirds horse and one-third cowdung, strong and fresh. On taking up some of the plants I found that some of the roots, 6 or 8 inches deep, were rotten. Can anything be done to improve their health?—A SUBSCRIBER.

[We sent your note to an authority on Strawberry culture, and the following is his reply:—

"I should not break up the plantations; they will make new roots in spring. It has been here quite a red spider and fungus season. The mould on the tips of the leaves may possibly be fungus, or the effect of the preceding cause. Water the plants freely while this hot weather lasts. The plants here of all kinds are most beautiful and healthy.—W. F. RADCLIFFE, *Tarrant Rushton.*" ]

## HAMILTON PALACE.

(Continued from page 274.)

I HAVE mentioned that on one of the fronts of the mansion a broad walk, continued by a still broader avenue of fine healthy trees, carries the eye a great distance; I may now state that on the opposite side is another vista, not exactly an avenue in the sense in which that term is often used, but a clear opening about two miles in length, affording a view of what appears to be another mansion almost equally spacious with the one near which we stand. This second building, I understood, is a model of one of the Duke's seats in France, for it must be borne in mind the Duke of Hamilton holds a similar title amongst the Peers of that country, as well as sundry English ones besides. This representation of his Grace's château in France, occupies a gentle rising ground on the opposite side of the river Avon, which, however, is not seen from either position, though it crosses the line, the whole distance appearing, as it in fact is, a continued park. The building in question is ornamented with grass terraces, flower-beds, and the usual accompaniments of an ornamental kind met with as surrounding a country gentleman's mansion, although it is devoted to other purposes; nevertheless, the keeping is good.

As I was told of the great antiquity of some of the remains in that part of the park, I was induced to visit it, and through the kindness of Mr. Mitchell, the very able and intelligent gardener, who accompanied me the whole way, and pointed out the various objects of interest, we made our way across some of the best park land in the kingdom, until we approached the river Avon—not the classic Avon of the English midland counties, but a clear pure stream as large as its southern namesake, but exhibiting more diversified features, even in the bounds of the park, than many rivers do in their whole course.

It is sometimes hemmed in by precipitous banks, clothed to the edge with rich woodland foliage, while rocks 100 feet in perpendicular height, and upwards, cast their long dark shade on its troubled waters, which struggle on over a rocky bed; at other times the stream widens into a broad expanse, shining like limpid silver, and seemingly proud to show itself to the admiring gaze of the visitor, whose eye wanders over the softer portion of the park, the banks being low, and the ground level on both sides. We had to cross it at one of those precipitous spots, and in doing so my conductor led me into one of those old-fashioned gardens which must certainly have ranked high among the works of art of that time. A steep declivity had been cut into terraces, and planted with a great variety of shrubs, which had been cut into the many fanciful forms our ancestors no doubt thought indicated the highest amount of ingenuity. Many of these figures had, no doubt, outgrown their original shapes, or had fallen into the hands of a less skilful generation, but enough remained to show the long-continued attention of its managers or originators; for although I failed to make out dogs and horses, cups, vases, pyramids, cylinders, and many fanciful figures difficult to describe met the eye at every corner.

We must now leave the scene, and crossing the river by a substantial bridge of considerable elevation, we find ourselves in another part of the park, more interesting from the objects it contains than any we have yet been in. Here we are introduced to members of both the vegetable and animal kingdoms, which carry us back to an age differing widely from that in which we live; and were it not for the living witnesses before our eyes, we might be almost tempted to doubt the accuracy of the legend which at least belongs to the vegetable department—the other admits, or hardly so, of any doubt whatever. We are, in fact, in Cadzow Park, and in company with, though at a respectful distance from, the occupants of that same park, whose ancestors had lived there probably before the human race invaded and battled for the same spot. On the part which Cadzow Castle played in the early history of Scotland I have no intention to enter, but it was, doubtless, a place of much importance when its proprietor received instructions from his sovereign to plant the Oaks which form so remarkable a feature in it. We are told this was done in the fourteenth century, or in the early part of the fifteenth, thereby indicating 450 or 500 years as the age of these relics, and, I believe, that there is some authentic record as well as tradition, that these fine old trees were then planted; and the somewhat regular manner in which they are scattered over the ground implies that if not planted by hand, the latter had something to do in thinning them out. They occupy a somewhat elevated position in the park. The soil, I should think, is rather inclined to be gravelly, not wet, and yet not too dry. The trees exhibit every feature common to old Oak trees. A few, but only a very few, may be called healthy, but I doubt much if any of the timber is sound throughout, and the greater portion of the trees exhibit traces of old age and decay in a greater or less degree. Several of them are dead, but still with perfect good taste they are allowed to remain where they are; many have large limbs quite dead, with a little life showing itself on a portion of one side perhaps. This struggle to prolong an existence is seen in its various stages, some seeming as if the last effort had been made, others promising to continue it for at least another generation of the human race, or longer. Antiquity rather than size is their peculiar feature, for much larger Oaks are met with in England; but nowhere that I know of are so many aged trees found together. The table land of a large portion of the park was dotted over with these venerable trees, while some dells and extensive boundaries were planted with trees of modern growth, or which had been cut and grown again. I regret omitting to notice any acorns, as it would be worth while ascertaining whether these belonged to the long or short-stalked species, the respective merits of which caused no little discussion some years ago.

These Oaks presented the usual outline of the monarch of the forest, generally short-boled, more or less enlarged by the swellings or protuberances, which form the beautifully-grained panels so prized in furniture-making, while now and then large portions of the outer part of the tree, or what is called the sap, had fallen into decay, leaving the heart smooth, and bleached white by the sun and rain. I did not see any trees that had been blown down; generally speaking, they seemed to die piecemeal from the top downwards, as some showed little else but a short trunk. One circumstance, however, more than any other struck me as remarkable—the absence of middle-aged and young trees which we meet with in natural forests, and

other places where timber has been the principal growth for centuries; so that if these trees were not planted by hand in the first instance, as is generally asserted, they must have received due attention at least a couple of centuries ago, as well as since, and younger trees must have been kept down so as to keep these favourites by themselves. However, they are a remarkable assemblage of old trees, and may in some degree be compared with the patriarchs of Mount Lebanon, which, though reduced in number so as to be very easily counted, are, nevertheless, not mixed up with younger members of the same family. Whether the same natural causes may have operated in both these cases or not, it is difficult to say. If we allow them to have been influenced by the same causes, we weaken the argument of those who assert the Oaks to have been planted, as the Cedars assuredly have not, and yet it would seem almost superfluous to plant Oak trees at a time when the country was, in a great measure, covered with them, and when there were so many evidences that Nature performed that office herself; therefore, the subject must still remain in doubt.

We now turn to another and still more important feature which renders Cadzow Park remarkable above all other parks in Scotland, and, with the exception of Chillingham in Northumberland, it may be said of England also; and here, again, we have to carry our inquiry centuries further back than in the case of the Oak trees mentioned above. I allude to the breed of cattle, which there is every reason to believe roamed over this island long before the Christian era, and which is still maintained in this park and that of Chillingham.—J. ROBSON.

## BEDDING-OUT AT OULTON PARK.

(Concluded from page 248.)

On entering the flower garden from the arboretum we come upon a large round bed filled with Mrs. Pollock Geranium; the plants were all spring-struck. The bed previous to planting-out time was filled with a mixture of new loam, peat, leaf soil, and well-decomposed manure in equal proportions. The plants all grew very vigorously, and soon covered the ground. This appears to be one of the principal secrets required to be known by cultivators of Mrs. Pollock generally—namely, the soil cannot be too rich for it when it is planted out in the open ground, provided the beds are well drained, so that no stagnant water can remain near the roots. I found, on taking the plants up the other day, that they had made roots 18 inches and 2 feet long. The foliage the plants made during the summer was truly magnificent, all the colours on the leaf being brought out very distinctly and beautifully. I have found in every instance that spring-struck plants grow much more freely than old ones; they also produce better foliage. Therefore I should strongly advise spring propagation for this section of bedding Geraniums, and, instead of growing them in pots, planting them out in frames where they can have the benefit of a very slight bottom heat. Another point should also be strictly observed: in taking cuttings a due amount of patience should be exercised. Never take any cutting off unless it has four or five fully developed leaves; if taken off at an earlier period there is great difficulty in making it secure in the ground, and very many probabilities of its damping off, because its wood is not sufficiently matured. A cutting taken off in the state described above will emit roots much more rapidly and grow more freely after it is struck than a small weak one; and soon after it becomes established in the frame the top may be taken off, leaving about three eyes above the ground. Three cuttings may again be taken from the plant before bedding-out time, and one from the first top taken off. If proper care has been taken according to instructions given in previous articles on the propagation and after-management of bedding plants, five good plants may be propagated from one cutting between the months of February and June, so that from a few good stock plants a large quantity may be obtained.

I have entered into this explanation here, because I think it may guide many who are as yet unacquainted with the proper management of the Mrs. Pollock section of Pelargoniums. I do not think the appearance of Mrs. Pollock as a bedding plant can be improved by an edging of any other plant, especially if the bed in which it is grown is surrounded by grass. The bed should, however, be nicely filled, putting the tallest plants in the centre, and reserving the very smallest for the edge of the bed next the grass.

The next bed to Mrs. Pollock is filled with *Iresine Herbstii*



with a good band of *Cerastium Biebersteinii* between it and the grass. Although I have in a previous article condemned the *Iresine*, I am now compelled to retract my words, and to assign the cause of its being condemned to the want of knowing how to manage it properly. Many valuable plants are lost by a too hasty judgment being pronounced upon them before they have been subjected to various kinds of treatment. For the last six weeks this has been by far the most beautiful bed in the flower garden; it presents such a beautiful outline to the eye. There is not that flat appearance which the *Amaranthus* presents, and the colour is magnificent—far surpassing the *Amaranthus* either for distant effect or close inspection. What the plant appears to want is more moisture than it has received from natural sources this season. The soil it likes is also very rich, and it requires a more shady position than I have seen accorded to it at many places this season. If grown under these conditions I have little doubt but that it will yet become a favourite in our gardens. Then, again, the nature of the plant was almost worked out of it by frequent decapitation in the spring. I have proved in many other instances that very few new plants are so good the first year they are sent out as they are the second; it takes them a long time to regain their proper strength and character after being subjected to the high-pressure system of propagation. From what I can see of the *Iresine* now, I think that in a more wet and humid season it will far surpass the *Coleus*, so that it will be worth while to keep a sufficient stock of it to give it a fair trial next year.

To the right of this is a bed of one of my new seedling *Verbenas* edged with *Viola cornuta*. The *Verbena* is a bright cerise or cherry in colour, and the *Viola* is a rich slate blue, or mauve. This bed has been surpassingly beautiful ever since the first week in July. The *Viola* still keeps its place in my estimation as one of the most chaste and beautiful plants for flower-garden decoration I have ever seen. It will be equally valuable for spring bedding as it is for the summer. It commences blooming, if the weather is not too severe, in March, and continues without any intermission till it is completely cut down to the ground by the frost in autumn. No doubt some valuable hybrids will be obtained by crossing this with some of the garden varieties. I shall turn my attention to this in the spring, if I am spared, and have little doubt that I shall be able to produce other colours in this *Viola*, with the same habit and constitution; and if this can be done it will be a great addition to our plants suitable for bedding-purposes. I hear that Mr. Tyerman, of the Liverpool Botanic Gardens, has a beautiful blue *Viola* called *montana*. This I think cannot be the same as mine, as his is described as blue. I shall, however, send him a bloom of mine to see if they are identical: if they are not, then we have two great acquisitions in the way of bedding plants suitable for spring, summer, and autumn decoration.

The next bed a little to the left of the *Verbena* and *Viola*, has its centre filled with *Verbena Velvet Cushion*, and a margin of *Mangles's Variegated Geranium*. This bed has been very much admired; it is now (October 7th), a blaze of floral beauty. Another large bed a little to the right of this has a centre of *Beaton's Stella Geranium*, with a wide row on each side of it of *Lobelia speciosa*; around this is a row of *Lady Plymouth Geranium*; and between this and the grass, *Claret Queen Verbena*. This has had a very fine effect. The opposite bed to this is filled with *Amaranthus melancholicus ruber*, with an edging of *Viola cornuta*. This bed has been, and is still, remarkably fine. The rich colour of the *Amaranthus* is so much toned down by the soft and pleasing colour of the *Viola*, that it has attracted all eyes to it immediately on entering the garden. The effect when seen at a distance is grand in the extreme. A large circle near the two last-mentioned beds has a centre of *Geranium Christine*, then 2 feet of *Verbena Purple King* around this, and a margin of *Geranium Golden Fleece*, 1 foot wide, next the grass. This bed has also been very good.

Behind the bed last described is a large circular bed raised on blocks of wood similar to that at the top of the ribbon-borders. A fine specimen plant of *Humea elegans* forms the centre. On the lower tier of blocks are six large *Humeas*, then the whole of the space between the *Humeas* is filled with *Geranium Boule de Feu*. There is also a thick row of *Boule de Feu* planted all round the outside of the wooden blocks next the grass, so that no wood is seen. This forms a perfect pyramid of scarlet, which is much relieved by the *Humeas*, and it has altogether a very imposing effect. It is placed just opposite the mouth of the tunnel leading to the pleasure grounds and

pinetum. As you come up from the pleasure grounds it stands just in front, and prevents the eye from catching the whole of the flower garden at once; and when seen from the opposite side of the garden it forms a nice centre or culminating-point to the whole arrangement of beds in the garden, which is laid out after no particular form, the beds being all irregular. This being the case, it is a very difficult matter to arrange the colours in the beds so that they may harmonise well as a whole.

Right and left of this pyramid are two large beds filled with *Gladioli*. Amongst these are planted *Canna discolor*, *C. Warszewiczii*, some of the *Caladiums*, and *Cyperus alternifolius*. This is the first time I have tried the *Cyperus* bedded out. It grows remarkably well. I have no doubt that the variegated form of this would grow equally well if planted in a warm and partially shaded place. This, by-the-by, is one of the most beautiful things for effect in a bouquet that I have ever used, if one spike is put in the centre and about three smaller ones around it; they should be so arranged in the bouquet that they may appear a little above the flowers, this gives the whole a very graceful appearance, and relieves the monotony of the colours very much. It also does away with that flat appearance too often seen in bouquets.

The ground between the *Gladioli*, *Cannas*, &c., is covered with mixed colours of *Verbenas*, and near the edge plants of *Amaranthus melancholicus ruber*, *Lobelia Paxtoniana*, &c. Behind those beds are several more large plants of *Humea elegans*, which, as seen in the distance, give a very nice finish to the *Gladioli*, *Cannas*, &c. Beyond this are raised banks planted with *Hollyhocks*, *Dahlias*, *Phloxes*, and miscellaneous bedding plants.

Another bed of one of my best *Verbenas* of last year, *Lady Binning*, edged with *Lobelia Paxtoniana*, has been very fine. This is one of the very best scarlet *Verbenas* in cultivation, the colour is very brilliant, and the habit all that could be wished. This bed has been so dazzling that it has been almost impossible to look on it for any length of time, especially when the sun is shining on it. This *Verbena* stands the weather well, and is altogether a very desirable variety. Besides the beds described above there are many others filled with *Stocks* and *Mignonette*, and various other bedding plants. I have only selected the above as being the most striking and containing many novelties which are not yet generally known.

There is a long terrace walk leading from the Hall to the flower and kitchen gardens. On each side of this are a number of beds, 2 feet square, cut out on the grass. These are filled with standard *Roses*, large specimen *Fuchsias*, *Pelargoniums*, and at intervals of about 30 feet a pair of large plants of *Humea elegans*; around these are placed plants of *Iresine Herbstii* and *Geranium Golden Fleece*, the ground about the *Roses* being covered with various coloured *Verbenas*, and the best varieties of *Tropaeolums*. This arrangement has been very much admired. Amongst the *Fuchsias* *Carter's Meteor* has been very conspicuous, appearing in the distance a perfect pillar of gold.

Time will not permit me to describe my own trial garden. This, with the novelties it contained, must be left for another occasion. I must leave the description of the general character of this fine old place to more able hands, and must soon resign its management, and bid farewell to all its associations, with the proud feeling that I have done all in my power to raise it from utter ruin to its present improved state.—J. WILLS.

### CLOTH OF GOLD GERANIUM.

THERE must be something materially wrong with the soil in which Mr. Flitton's Cloth of Gold *Geraniums* are growing, as he says his plants have all the requisite shelter, &c. I may state, for his information as well as "R. F.'s," that I have four beds of Cloth of Gold and *Amaranthus melancholicus ruber* planted plant for plant, and edged with *Lobelia speciosa*, and I can assure Mr. Flitton and others that no beds up to September have succeeded better than these. When they were being planted many shook their heads, and I confess my own hopes were not very sanguine on the matter, knowing that they would have to withstand the bitter east winds off the sea, from which they are separated about 200 yards. These beds are so beautiful and the contrast so fine that I intend planting them on a large scale next season. I shall also prepare the soil by improving its texture, something in the way that Mr. Pearson describes.

By the way, it is not every gardener that can do as Mr

Pearson describes; fine loam is not found everywhere, nor is dung *ad libitum* at every gardener's command, even though his garden may be acres in extent, and his bedding plants may be counted by thousands. A very good plan is to graft the weak-growing fine-foliated *Geraniums* on *Tom Thumb*.—W. McLELLAN, *Wemyss Castle Gardens, Fifeshire, N.B.*

### RAIDS AFTER FERNS.—No. I. DARTMOOR.

Up the valley of the Teign, by the side of the prettily wooded river, cricking one's neck in turning to catch a view of the frail-looking suspension bridge spanning the river from Teignmouth to Shaldon, with the blue waters of the sea beyond, bearing many a vessel to the secure little harbour round the ruddy headland of the Ness; then turning for the upward view, where the soft undulating hilly distance gives to the river the sweet characteristics of a lake; then through King's Teiguton, taking a turn to the right and presently coming to the old straggling Teignbridge, on each side of which *Asplenium ruta-muraria* abounds, not in small half-starved morsels, but in full rich bunches. By applying a little judicious leverage the old stones can be moved and the plants extricated, with some of the mortarised earth clinging to them. Another turn to the right and you are at the pretty church of Teigngrace. Near this place *Polystichum angulare imbricatum* has lately been found, and after a while you are very near some of the finest specimens of *Osmunda regalis* that I have met with. Still on, and you come to the Bovey potteries where the huge mounds of earth, the railway trams, and the toil-stained faces of the men, are but pleasant shadows of comfortable cottages, well-paid workmen, and wives and families clothed and fed. A little beyond the potteries and a road to the left is the high road to Manaton. The hedges on either side contain *Asplenium adnigrum* in every varied form of growth, the fronds measuring, together with the rachis, from 2 feet in length to 1 inch; one curious specimen beginning with two finespreading pinnae, as if determined upon doing great things, but, suddenly changing its mind, ending by sending up a tiny frond, having the appearance of a child's head on a man's shoulders. In this same hedge there were more than one plant having the same stunted appearance, which, though very curious, is, of course, only a freak of Nature; but I rooted them up, for one never knows in ferndom what may come of what. Still on the Manaton road, just before entering on the moor, there were some plants of *Lastrea oreopteris* by the roadside, stunted in growth, but very welcome to me as being the first I had seen in this part of Devonshire. And then—the moor! the fresh bracing wind coming cheerily to welcome you, making you inhale long whiffs of the elastic Heather-scented air, that seems to bring new life and vigour on its wings.

Such a moor! Heather of three kinds—the *Erica cinerea*, *Erica tetralix*, and the common *Ling*, mixed in vast masses with the golden Gorse, and here and there and everywhere tufts of bright green *Blechnum spicant*, now peeping up from a large moss-covered boulder of rock, caressing it with its tender arms; now contending with *Polypodium vulgare* for the prettiest nook of an old weather-beaten tree; and now rioting in luxurious ease with *Lastreas dilatata*, *Filix-mas*, *oreopteris*, and *Athyrium Filix-femina*, on banks of richest turf, till in the neighbourhood of Becky Fall, the wayside was literally carpeted with the tender green of multitudes of fresh young fronds; some of the *L. dilatata* assuming so nearly the appearance of *Polypodium phegopteris* that I jumped out of the carriage with a joyful cry to gather it, but returned with only the slow step and whine of disappointment.

Some light carriage had passed us up the steep ascent to moorland, and when we reached the pretty village green of Manaton we found that our approach had been heralded, and the rosy face of a Devonshire "lass" was standing out from a cottage porch of Roses and Honeysuckles to welcome us, while a huge flock of geese stretched their wings and cackled vociferously at the unwonted appearance of a stranger. Round the village green a few picturesque cottages are collected. There is Ivy Cottage, where we took up our abode, the "Half-moon" tavern, an innocent-looking cottage with whitewash and Ivy, and adjoining, another cottage known far and near as "The Shop." On the side opposite Ivy Cottage is the new trim little school, where a wise-looking lady in spectacles strikes terror into the very marrow of a group of stolid-faced urchins by her big-sounding words of wisdom. Nearly opposite the school is

a lych gate, through which the inhabitants of the peaceful moorland are carried to their last earthly dwelling place beneath the shadow of the grey old church, whose tall white tower is a beacon to the shepherd for many a mile around.

No place could well be prettier than Ivy Cottage, with its thatched roof, its casement windows, and its glorious surroundings of rock-strewn moor and grey dream-like distances. We had not been long installed before we had visitors—a long, thin, sedate shepherd's dog, demurely shaking his tail as his eye wandered round, drawing its own conclusions as to the likelihood of a dinner. The dog was followed by a fine black pig and a brood of chirruping chickens; the latter gave my thoughts a practical turn. I called (Ivy Cottage ignores the idea of bells) to the pretty daughter of our hostess, and said, "You will be able to roast us a chicken?" "Oh, no," she replied, "but you may roast one at our fire." "Bless me," I said; but I thought "Oh that I had taken 'WILTSHIRE RECTON'S' advice, and made visits to the kitchen before I came;" but after a while I found out it was only humility on the part of the maiden, and on the assurance that I was "not much of a cook," I was promised not only a chicken but rashers of ham and eggs, and—"A goose," suggested I, "there are plenty outside." Then the pretty maiden laughed derisively, and said Christmas would be time enough to talk of "they geese, they was so lean," and, "none of our feeding." So I left the geese to cackle in peace, and sallied forth to the shop to buy some calico for Fern wrappers. What a shop it was—groceries, drapery, stationery, bread and meat, and all from one counter, with an intermittent fever of gossip going on during the protracted process of selling. "You'll be the strangers up at Master Lee's. I seen you come; you drove in your own carriage. You come Newton way I seen. Well, there's two more Newton gentlemen a drinking next door. I seen 'em go in, so I know sure enough. There's more strangers up at Wescott's. I know it, you see, because they always uses dips themselves, and they come here for composites; so if they ain't come they are coming, sure enough. I always regglate my prices after market day up at Exeter. Master Lee he goes to market sometimes, and sometimes the butcher he comes, so it's all quite correct." And quite correctly dear everything was; but they please themselves, and the calico he did very well, when her had folded he up and given he I without any expense of paper for folding or string for tying up.

Directly above Manaton, looking down on the church and village, are a number of rocks heaped together in wild and grand confusion, and called the "Town Rocks," while lying all around in pasture land and amidst the waving corn are thousands and thousands again of huge boulders, and these peculiar forms of shattered rock make the chief features of the scenery. What geologists say about them I do not know; but there must have been a grand commotion going on beneath the water-floods when "Heytor" first raised her magnificent head erect and dry, and the rattling rocks settled themselves here and there in confused masses of wondrous beauty, little thinking of the curious names by which they would be distinguished in far off ages. One of these tors is formed of five masses of rock, and is more than 30 feet high; it is called "Bowerman's Nose," and seen in some lights it bears a marvellous likeness to a human figure with a very prominent nose. No family of the name of Bowerman exists at Manaton; but there is a record stating that in the time of the Conqueror a person of that name lived at Houndtor in the neighbourhood.

I cannot find words adequately to tell how beautiful these various tors can be when seen in the soft evening light. Rising heavenwards from a rich valley, with its nestling homesteads, its lowing kine, and waving corn, they crown the hill of Gorse and Heather, and seem to melt away into the very heavens, their rugged outline growing soft and intangible-looking, while other tors and other valleys stretch far away in the distance. And then the Fern-hunting, amidst scenes like this! the suddenly lighting on a moorland, by the banks of which you may wander, gathering Ferns at pleasure. On such a bank I found a very curious form of *Athyrium Filix-femina*, var. *odontomanes*. At first I thought I had a very great treasure. The narrow tapering fronds of dark green, with their spinulose serratures, looking as unlike *A. Filix-femina* as possible; but the eyes of a wisdom far greater than my own, looking upon it, have declared the graceful Fern to be only a curious form of *odontomanes*. About the bog close at hand I found the *Campanula hederacea*, which, strange to say, I had never noticed before. Its pale blue bell-flowers spring up about the treacherous green close to the *Drosera rotundifolia* and the Golden *Asphodel*, while a little



higher on the heath the banks of Gorse were covered with *Cuscuta epithymum* in full bloom, the crimson tendrils spreading far and near in matted confusion.

*Polypodium phegopteris* has been given to Becky Fall; but I searched there for it in vain, nor did I think the locality gave a good promise of it; I cannot help thinking that the very small *L. dilatata*, var. *collina*, I have mentioned before, has been mistaken for *phegopteris*. From the dripping rocks about the waterfall I procured specimens of both *Hymenophyllum tunbridgeense* and *unilaterale*. I have oftentimes been puzzled about distinguishing these delicate little Ferns when apart; but when you bring the two together all difficulty vanishes. *Tunbridgeense* is erect, and the fronds flat; *unilaterale* is drooping, with convex fronds; there are several other botanical distinctions, but I think these simple ones would always be sufficient. It is in dissecting the minute parts of these small Ferns that a Coddington or other lens becomes so invaluable and indeed so necessary.

Do not be content with only searching about the waterfall, but follow the higher path to the right and you will presently emerge on a sunny upland slope, not far from Lustleigh Cleave; here, within reach of the music of the waterfall, you will find a bank covered with *Asplenium trichomanes* and small *A. adiantum nigrum*, shaded by the drooping branches of the trees through which the sunlight winks and gleams.

In a hedge-bank close to Manaton I found several very curious forms of *Lastrea Filix-mas*, one of which I hope may turn out to be *cristata*; nearly every pinnæ is divided, and the apex of the frond is slightly crested. I should have thought this Fern a simple sport had there not been a little fructification. I found many varieties of *Lastrea dilatata*, and three plants of *L. spinulosa*. *Polypodium dryopteris* is said to grow near Chagford, but I have yet to find it. I hope shortly to have many more successes to relate, for the entire district abounds in Ferns and wild flowers.—FERN-HUNTRESS.

### THIRD CROP OF FIGS.

MR. ABBEY (page 280), says that he had asked your readers about a third crop of Figs, but met with no response. In an orchard-house, warmed during the colder days of spring, but not till the beginning of March, the first crop of Early Violet ripened this year on the 4th of July, the second on the 8th of August, the third in September.

The rationale of a third crop is very simple. When four or five leaves are made the point is pinched out, and the second crop is formed in the lower axils, but a wood shoot proceeds from the terminal one. If this is stopped again, the same results ensue, and a so-called third crop is formed. The ripening of this third crop depends—1st, on the earliness of the variety operated upon; 2ndly, on the shoots being stopped before they have made many leaves; 3rdly, on the variety being prolific, so as to insure fruit being formed on shoots however short; and 4thly, on there being sufficient heat to carry out the ripening. I have never found any variety so ready to produce a third crop as the Early Violet, which is, I believe, synonymous with the Malta; but I doubt not the White Marseilles would do the same. This last-named variety, side by side with the Early Violet, ripened its first crop this year on the 23rd of June, and the second on the 12th of August.—G. S.

### PAULOWNIA IMPERIALIS.

TEN years ago I wrote to ask you about the Paulownia. You did not give me much hopes of success; however, I planted one. It is now a large tree, measuring (nearly 3 feet from the ground, before any branches begin) 3 feet 6 inches in circumference. I enclose a piece with flower-buds. The tree is thickly covered with them; but I fear they will not open so late in the season. It is the first year it has had any flower-buds. I should be glad to know if there is any hope of the flowers opening, or of its flowering another year. The tree is at Mrs. Egerton's, in the Vale of Gresford, near Wrexham, very much sheltered, near the river Alyn, which runs at one side of the garden. It is a very handsome tree; the leaves are beautiful.—M. E. G.

[Your experience hitherto is in accordance with our warning. The flower-buds will not open this year. In 1852 this tree flowered freely in the Bishop of Exeter's almost tropical grounds at Bishopstowe, near Torquay; but it was in April, and before

the leaves were fully expanded. In Japan, the tree's native country, it acquires a height of 40 feet; but even in that country it only flourishes in the valleys and southern hill slopes of the southern districts. The flowers are very pale bluish purple, with a slight violet-like odour.]

### LEVELLING A SLOPING BANK.

WE have been asked by a correspondent "D. V.," for directions how to level a sloping bank, and as it is an operation not generally conducted on sound principles, we will reply to the inquiry rather fully.

Our correspondent does not say whether the slope is to be made into a level piece of ground, or still kept on the slope with the surface made even or regularly sloping. If the ground is to be made level (as, for instance, that represented between the points A and B, *fig. 1*), fix a stake, *a*, at one corner

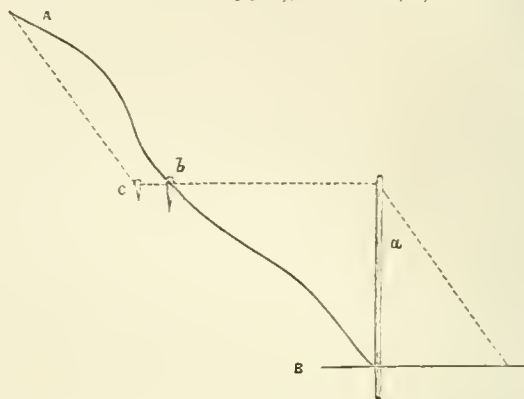


Fig. 1.

of the ground, and at the lowest point of the base of the slope, *b*. In line, at a right angle with *b*, along the base of the slope, drive in another stake, and then place a spirit level by *a*, first driving in a peg at right angles with the first stake *a*, up the slope at half its height, *b*. Now, the spirit level being held against the stake *a*, at the bottom of the slope, at such a height that in looking along the level (quite level), you see the peg half way up the slope, *b*, moving up or down until the peg is seen over the spirit level, cut off the stake at that height; then make the other stake, at the other end of the base line, level with the first (*a*), not by looking over the stake first sawn off but with the spirit level, its upper side being placed level with the top of the stake, and not upon it, having some one to mark the level on the other stake which is to be sawn off at that. The spirit level being brought to this stake you looking along it up the slope will show where a peg is to be driven in, which, of course, will be equal to that at the other end of the slope, and how far, so that its head may be level with the other or stake at which you stand. Turning your eye along the base and looking over the stakes, have one driven in at the middle equal in height to the two end stakes. Repeat the same with those pegs half way up the slope, and you are ready for removing the turf.

Take the turf off evenly, roll it up, grass side inwards, lay it on one side, and clear of the ground to be levelled. If the ground is not deep in soil, then from 9 inches to 1 foot of the whole surface should be taken off and placed on one side to surface the levelled ground afresh. If soil can be had for this purpose, or the soil is all good, then this is not necessary, but you must not expect to bring bad soil to the surface, and, turfing upon it, expect the turf to do well when relaid. You will bring the soil above the pegs down, and raise the ground around the stakes even with the tops, and by looking over the top of the bottom stake *a*, and peg *b*, up the slope, find the ground above level with them; if not so it must be brought level, driving in pegs, as at *c*, to show it at both ends and in the middle likewise. You will now have nine pegs, and looking from every corner the tops are of an equal height. If so, the ground inside them can be made level by a line stretched over the tops of the pegs, from peg to peg all round, and from corner to corner crosswise, putting in more pegs if the line (as it will) be not tight, to preserve the level between the stakes or pegs. You will now have a terrace, as shown by the dotted lines between

the peg *c*, and the stake *a*, and two slopes instead of one—one at the bottom, and another above the levelled piece of ground, as shown by the dotted line from *c* to *A*; and whatever their perpendicular height be, their base should be equal thereto (the levelled ground being less in width by half the width of the slopes), or to both if the lower slope be on the same ground. In that case the stakes must be taken the width of the slopes inwards. These slopes will look well grassed, or better still if planted with Roses pegged down, the slope at back, or upper one, being planted with Laurels pegged down, and the ends for half their width, for there will be slopes there also. The terrace and the slopes must be covered with good soil not less than 6 inches deep, and it need not exceed 9 inches in depth, and this made level and firm may be turfed at once, allowing 3 inches in every yard of depth for the soil settling—that is, where the fresh soil is placed; where it is solid no allowance need be made.

In case you wish to render the sloping piece of ground even in surface, still keeping it on the slope, provide a number of stakes and pegs, the stakes 4 feet, and the pegs 1 foot in length. Beginning, as in the former case, by driving a stake,  $a$ , in at the base  $b$  (fig. 2), and at one corner, 1 foot into the ground and

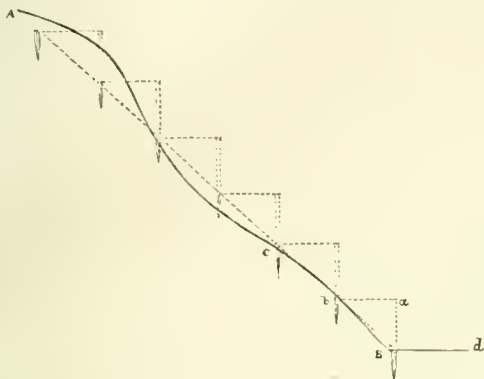


Fig. 2.

3 feet out, less the thickness of the level, and with the spirit level placed upon it level, apply your eye to the upper surface of the level, and you will see where the level strikes the slope. Put in a peg *b*, 3 feet from the first stake *a*, measuring from the top of the stake *a*, horizontally towards the slope, and drive it so far into the ground that its top is level with the upper surface of the first stake *a*, looking over the level. A straight stake a yard long, less the thickness of the level, placed on the top of the peg *b*, and the spirit level set upon it will show where to put in the next peg *c*, and so on to the top as shown by the dotted lines of the stakes and pegs up the line between *v* and *a*. Level the base lengthwise, and the upper line also, and up hill, in the middle, and at the other end. Reduce the first stake a yard, less the thickness of the level, or cut it off level with the ground line *d*, and you have the pegs all of a sloping height throughout, as shown by the dotted line drawn from *a* to *r*. Form the ground level with the pegs, and your ground will be evenly sloping towards the base.

### A DEFECT IN MOWING MACHINES.

Now that the above machines are so generally used, information respecting their management would doubtless be acceptable to many of the readers of your Journal, myself included. Having had one in use for the last three years, by noted makers, I have experienced considerable inconvenience owing to the knives not being of uniform hardness, the softer ones wearing so that they were prevented from being set at cutting-distance to the plate by those harder, which were so very hard that a file would make no impression on them. No maker living near, I was obliged to have them taken off and ground down upon a stone; but after replacing them they were found to be round in the middle, which caused the grass to be only crushed instead of cut. I then tried to bring them to an even face by grinding them the reverse way with emery and oil against the plate, but without any beneficial effect. I at last had them softened enough to admit of their being filed, which proved satisfactory. Perhaps some of your readers may be able to

tell the proper method of reducing the knives when they happen to become uneven as mine did. Occurrences of this kind tend to prevent the use of mowing machines, especially when persons are obliged to send the knives long distances to have them rectified, which might be obviated were the manufacturers to furnish more comprehensive instructions with each machine.—VERAX.

HARDINESS OF LILIUM SPECIOSUM  
(LANCIFOLIUM).

It may be interesting to your correspondent and others to know that *Lilium lancifolium* can be grown to great perfection in the open border. In the autumn of 1859 I planted a single bulb in an open spot about the centre of my garden, and this, without any protection whatever, stood the intense frost of the following winter. I have now eleven vigorous stems, which, when the topmost buds shall have all opened, will have borne this season at least 120 flowers, with colours more rich and clear than could be produced under glass. Some of the stems measure about 4 feet in height, and they are as thick as an ordinary walking-stick. *Album* is not so vigorous, and it is the latest in blooming. Except in fine seasons it does not do so well. It is, however, in full bloom here at present, and I am sure it never was seen in finer condition. *Lilium auratum* being of a similar constitution will, I doubt not, prove as hardy, and the situation which is adapted to the one will be sure to suit the other.—H. C. R., *Troon, N.E.*

WORK FOR THE WEEK.

KITCHEN GARDEN.

EVERY piece of ground that now becomes vacant should have the requisite quantity of dung laid on, and trenching should be carried on in every favourable opportunity. It is not good management to leave pieces of ground in a rough untidy state until spring, when, from pressure of other work, the trenching is frequently imperfectly performed, or the ground not trenched at all, thereby neglecting one of the fundamental principles of good gardening. To be beforehand with time is a maxim which every one should endeavour to keep before his eyes, and those who look forward to having good crops next year must now begin to make the requisite preparations. *Asparagus*, when the tops are decayed cut them off close to the ground, the beds to be then made clean, and afterwards covered 3 or 4 inches deep with rotten dung or decayed leaves, the alleys to remain as they are and not be dug out, as by so doing many of the roots are injured. *Cabbage*, the main spring crops to be planted out as early as possible. Those which were planted in August for Coleworts should be earthed-up. *Cauliflowers*, prick them out in places convenient for covering with a frame, the soil to be light but not too rich. *Cauliflowers* may also now be taken up for storing away. There are various methods of doing this, one of the best is to choose the most solid heads, take them up with the roots, denude them of the greater portion of the leaves, and bury the roots and stems in leaf mould or old tan in an airy shed. *Cucumbers*, this month may be said to be the commencement of the professed Cucumber-grower's year; the seed-bed should now be made with well-worked dung over a layer of faggots, the frame to be then put on, and when the heat is up the dung inside the frame should be forked up every other morning for a week or ten days, at the end of which time it will be ready to receive the seed, if the dung was properly worked previously to making it into a bed. *Dwarf Kidney Beans*, the first sowing in pots should now be earthed-up as they require it. If they are placed over a flue or hot-water pipes in a forcing-house, the pots should stand in saucers when the fires are kept going, otherwise the soil at the bottom of the pots will get very dry. *Endive*, continue to blanch it. An expeditious and very good way is to invert flower-pots over it when it is in a very dry state. *Lettuce*, continue to plant the Cabbage varieties in frames for winter use. The *Cos* varieties for spring use should also be planted on a sheltered border as soon as they are of sufficient size. *Sea-kale*, gather seed when ripe, and as soon as the leaves begin to decay clear them away. It is necessary to do this as early as possible, when it is required for early forcing. *Turnips*, thin the late sowing, but it is not necessary to leave them at so great a distance apart as the spring and early autumn-sowings. Take every opportunity of clearing the ground from weeds. In



the best-kept gardens they are troublesome at this season, more especially as the present one has been exceedingly favourable for ripening seed.

#### FRUIT GARDEN.

Look over fruit remaining out of doors frequently, and gather it as it becomes ripe. Also examine that stored in the fruit-room, as there will occasionally be found a few decaying for a few weeks after housing, and these should be removed as soon as perceived. Keep the fruit-room cool and airy in order to allow of the escape of moisture given off by the fruit, which is considerable for a few weeks at first. Where it is intended to make fresh plantations of fruit trees this season, the ground should be prepared at the earliest convenience, and any fresh soil to be used for planting should be thoroughly exposed to the action of the weather, so as to have it in a mellow state when wanted for use. Trim and dress Strawberry plantations, and be careful to injure the leaves of the plants as little as possible, and avoid deep digging between the rows, by which the roots would be injured.

#### FLOWER GARDEN.

The principal work in this department for the present will be mowing and cleaning-up, and if anything like neatness is to be maintained, sweeping-up leaves will soon require daily attention. Let the early-flowering spring bulbs be all planted and the Carnation layers potted or planted out. Lose no time in planting off Tulips, and any of the main roots which do not appear in a healthy state.

#### GREENHOUSE AND CONSERVATORY.

The plants in these structures will, as yet, require a rather liberal watering, and this should be performed early every morning with regard to those which require it. Winter-flowering plants which have thoroughly ripened their wood may have occasional applications of weak and clear manure water. A free ventilation must be permitted, leaving a little at night. Let Cyclamens, Lachenalias, Oxalis, Centradenia, tree Violets, and such little winter favourites be kept on a warm front or end shelf totally unshaded. Roses in pots intended for flowering through the next two months should be allowed a very light situation, where there is a constant circulation of air. Summer-flowering twiners, which usually become unsightly by this season, should be cut back rather freely, as also any others that will bear this treatment. Shade can now well be dispensed with, therefore not a spray that can be spared should be left to obstruct the light. Acacias and other winter-flowering plants, having been subjected to a period of comparatively dry treatment to ensure their blooming profusely, should now be pretty liberally supplied with water at the roots in order to get them into flower at the dull season, when they will be much more esteemed than in the spring when flowers become more plentiful. Manure water, if it can be used, should be given frequently to Chrysanthemums. Aroid cold draughts against plants that have been brought from a warm house, and guard against damp by using gentle fires, with a little top air, on wet days. Let pot specimens in bloom be frequently re-arranged, so as to make the most of them, for the finest specimens become too familiar to be interesting when allowed to remain too long in one place. Bark or other beds of fermenting materials for plunging plants should be renewed, if necessary, as soon as the proper materials can be collected. A surface of either sawdust or sand, old tan, or decayed leaves, will be found useful for plunging. For early forcing a bed of this kind, capable of supplying a lasting heat of from 65° to 70°, will be found of the utmost value. Introduce Roses for forcing; no fire heat will be required at present; by shutting up early on bright days sufficient heat will be enclosed to induce an early root-action.

#### STOVE.

A temperature of from 65° to 70° by day, and of 60° by night, will suffice, still using a somewhat moist atmosphere in the afternoon and during the night, with a free circulation of air, keeping also a quiet ventilation all night. As some of the Orchids become ripe, such as the *Catasetum* family, the *Cyanocheas*, *Lycastes*, &c., they may be removed to a drier and somewhat cooler atmosphere. Pursue a kindly course of treatment with the *Euphorbias*, *Gesneras*, and such things for winter flowering; these will soon be of great service. The *Phajus grandifolius*, with the *Stenorhynchus speciosus* will soon begin to blossom; also *Cypripedium insigne* and *venustum*. Let them have plenty of heat and moisture.

#### PITS AND FRAMES.

Regulate the general bedding stock, and get the majority

established in small pots. Give as much air as possible, and restrict the supplies of water to mature the growth as far as possible. All temporary pits for their accommodation should be completed by this time, and glazing and other repairs forthwith finished. Common mats afford scarcely sufficient protection to the half-hardy plants in store-pits. For such purposes a stock of straw or reed mats should be made in wet weather. See to securing as many cuttings as possible of any scarce plants which it may be desirable to increase while there is a fair chance of rooting them.—W. KEANE.

#### DOINGS OF THE LAST WEEK.

THURSDAY gave us the first frost to speak of, since the beginning of the summer, but not enough to do more than crust the grass early, all higher plants being scarcely touched. Nothing, therefore, has suffered much as yet, and notwithstanding the continual dryness, the flower garden, and even Calceolarias, still look well. What has suffered most from dryness and want of watering are Dahlias and Zinnias, the former yielding flowers below the usual size, and the latter wanting strength to open properly the succession-buds. Were we sure of a few weeks' mild weather, we would contrive to water at least these two flowers. Calceolarias have gone so much to bloom that there will be a difficulty in procuring nice stubby side shoots for cuttings. We hear from some of our friends, that they will be forced to prune in and take up lots of old plants, which is so far good, at least, for securing cuttings in spring; but we would rather have cuttings about the middle of this month, if possible, as at from 1 to 1½ inch apart a good many will stand in the room that would be necessary for a single plant, and, on the whole, we prefer autumn cuttings of Calceolarias, to spring made ones, just as we prefer spring-cut Verbenas to autumn-struck ones, only some must be saved in autumn to take the cuttings from. What are fine masses of Verbenas now, notwithstanding the dry weather and scarcely any watering, were struck in a wholesale way in April, by being dibbled in 1½ inch apart, in soil under a frame, and taken up and planted when nice plants in May. Autumn-struck ones may bloom so as to fill the bed earlier, but they do not generally last out the autumn so well. This holds good, however, in the case of all early flower gardening on the bedding system. Beds of Scarlet Geraniums full to overflowing in the end of June, and beginning of July, will hardly keep on equally good in October, unless attended to as regards pruning, disleafing, and watering, too, if necessary. Considerable trouble and labour are required to have every bed first-rate in June and July, and first-rate also in September; but this is not sufficiently considered by those who require high keeping at all times.

We have received several letters on what was advanced a few weeks ago, on limiting the size of flower gardens, rather than having large pleasure grounds which cannot be well kept. Let it never be forgotten, that two or three flower-beds tastefully arranged, full of bloom, and without gaps, dead flowers, or dead leaves, will ever be more satisfactory than a hundred beds thinly and irregularly planted, and with dead flowers and dead leaves staring at you everywhere. A few poles of lawn, level as level can be, without weed or daisy, smooth and soft to the feet as a Turkey carpet, will yield an amount of satisfaction that no number of acres of pleasure ground will give, which the labour power cannot overtake and keep nice, either by scythe or mowing machine. In no direction have gardeners more erred than in using their influence to extend flower gardens and kept lawns. This we know has been done in some cases against the judgment of the proprietors, who have candidly stated, "Well, you may have the ground, and I will not grudge trees and shrubs that may be necessary, but I can afford no more labour." In many such cases part of such grounds eventually have been left pretty much to themselves, and in many places where a considerable number of the Pine tribe, and other ornamental trees have been planted, it would be to the benefit of all concerned if such parts were left rough, or mingled with masses of Broom, and Gorse, and Heath, and then more attention could be given to the principal parts of the lawn. From the end of March to the middle of November, that lawn to be kept well will require going over at least once a-week, often once in four days, and then when fresh done it will be no better than it ought to be. To keep even a moderate space as it ought to be, many other things often have to be neglected during the summer. The evil would be lessened if

we kept in mind that a large lawn even with the help of mowing machines, becomes the most expensive thing in the garden.

#### KITCHEN GARDEN.

Very much a repetition of the work of the previous week. Having a bit of spare ground, planted it with Coleworts, Brussels Sprouts, and Savoys, trenching the ground first, and then digging out trenches 2 feet apart, and laying the plants up to their necks in the trenches, watering, and then fastening well. These will do well for spring cutting. *Scarlet Runners* showing a disposition to stop bearing, we forked along the sides of the rows, gave a good soaking with sewage water, and pulled off the pods too large for use, saving some for seed. These plants have grown so strong, that though the sticks were high and mixed with young larch trees with the tops on, the vines have met in the middle; and as numerous little ineipient pods hang farther down, these will be protected from frost by the canopy above them, if they swell nicely, as we expect from the watering given to them. We have frequently kept these runners well into November by placing some poles along the rows and running a very rough straw rope along the rows from pole to pole. The rope was left rough by leaving out the ends of the straw for a foot or so in twisting the rope. When the Runners are grown on the ground without stakes they are still more easily protected; however, even with this protection they will do little good unless the old pods are cleared off. We noticed the other week clearing off all the pods from a bank of Dwarf Kidney Beans and giving them a good watering, and they have since yielded some gatherings; and if they go on well we shall take means, by the help of a few spars of wood, for throwing a piece of frigi domo over them on a clear cold night. The ground is so warm as yet, that it will require a rather severe frost to injure them if a little protected.

Here we may notice that a correspondent tells us that she has succeeded very well with *Scarlet Runners*, and in some cases with Dwarf Kidney Beans, by taking up the roots before frost, packing them in dry earth and sand, and planting them out in the end of April, and asks what we think of continuing the practice. Well, we have a great opinion of every one following that plan or system that answers best with him. It is well to know that the roots of *Scarlet Runners*, especially, may be saved over the winter, and grown next season like the roots of a Dahlia or a Marvel of Peru, and the system might be very useful after cold seasons, in which the seeds ripen imperfectly; but after several times trying the plan, our own impression is that it causes more trouble than sowing seed, and we failed to perceive any advantage either in earlier or more continuous cropping.

#### FRUIT GARDEN.

Cleared the runners from a piece of Strawberries. We fear the plants have been allowed to become too dry, as much of the foliage is greatly browned. Moved Strawberry plants in pots, so as to give them more room than the sun and air may reach them thoroughly. If, after this time, the sun also beats on the pots, so much more likely is it that the plants will be well ripened. Weeded all such plants in pots, and removed all runners, nipping them off close to the plant. Gave manure water in these sunny days, as the pots are now full of roots; will water only as required. The plants must not have flagged leaves, but if, with the heavy dews of late, the tops stand without showing distress, then they should have no water given to them.

In the open air have had good gatherings from forced plants turned out, and would have had them better and more plentifully if we had watered them more. Gathered most of the Peaches from orchard-house; they have done us good service after late ones on the open wall had ripened. The only objection to great quantities of Peaches is that you cannot keep them, but as soon as ripe they must be eaten, or preserved in some mode or other. This is also one reason why, when they are plentiful, we should thin more than we generally do, as very heavy crops one year, and especially on young trees, injure their bearing in the following year. We left more than we ought to have done, in order to moderate the strength of the wood on some young trees.

Cut off laterals and shortened long shoots, that the sun might have freer access to the buds and wood. Figs have ripened well out of doors this season, and come in between the succession crops in our pit-house. The fruit in the latter are still ripening plentifully, but they are less in size, and, if we continue taking fruit many weeks longer, the first spring crop is almost sure to suffer. Watered with manure water Fig trees in Fig-house and in pots in orchard-house. But for the

Plums in the late-house, we would keep it closer in sunshine now, and use the syringe freely in the afternoon, to help to keep the trees clean and have the wood well ripened. Removed netting from Gooseberries, and for the most part from Currants, these fruits refusing to hang so long as usual this season. Many of the best Pears, and even *Mario Louise* yet quite hard, are rotting on the trees before they approach maturity. It is singular what a difference there is within short distances. We have as yet used but few *Mario Louise*, and in some places, not far distant, there is not one left. In some places *Williams's Bon Chrétien* decayed from over-ripeness before we had one fit for use. The decaying of fruit, alluded to above, is in some few instances owing to their being pecked by birds, but some fine specimens half rotten have no appearance of having been touched by birds. We have scarcely noticed an Apple thus attacked, except, perhaps, a few of the earliest. Later ones look, too, as if they would keep pretty well. This rotting of the Pear before ripening seems to be owing to some peculiarity in the atmosphere in this scorching weather, which, we have no doubt, affects fruit and vegetable as well as animal life.

There are three things we have noticed lately out of the common way. First, the immense number of flies of all sorts and sizes, so as actually to blacken white-coloured buildings; secondly, the dense clouds of gnats and other small insects during bright sunshine; and, thirdly, the immense quantity of gossamer, not only in the shape of spiders' webs on grass and shrubs, but the long strings of the same material, almost as rough-looking as loose cotton, floating in the air, sometimes free, and at other times fastened by one end to a house or a tree. One of these threads, suspended between two trees, and moving backwards and forwards with the slight breeze, was fully 30 yards long, and numbers of detached and flossy pieces fixed by one end were from 20 to 60 feet in length. What a spinner the little spider must be! A gentleman who noticed these flossy streamers said that they generally denoted a close, unhealthy state of the atmosphere, and added, that under such circumstances, or even when the grass seemed to be more than usually studded with cobwebs, it was of very little use to attempt fox-hunting, as the scent would not lie. Although, then, we are well aware that a good downpouring of rain would settle the beauty of the flower garden for this season, and might somewhat injure the flavour of our late fruits, we are at the same time fully convinced that such rains would be the most effectual agent for purifying the atmosphere, and thus be of benefit to field and garden, to beast and man. Taken altogether, the oldest inhabitant never recollects of such a season as the present. Even after the slight frost on the morning of the 5th inst., the day had the heat and the unclouded bright blue of an Italian sky. With a repetition of frosty mornings we may make preparations for rains ere long. The condensation of moisture will be too copious to be deposited even in heavy dews.

#### ORNAMENTAL DEPARTMENT.

The dry weather enabled us to keep the principal parts of the lawn short by means of the hand-mowing machine, and a roller so flattened any worm earth-heaps as to make the grass smooth for the feet. Did a little to the beds just to keep them tidy, and have as yet taken nothing up. In one group we have the centre bed chiefly filled with *Cassia corymbosa*, and it has been very massive and fine, with its huge branches of orange-coloured flowers, since the beginning of July. We have merely gone over the beds a little to keep them passable, hardly deeming it worth while to be very particular now until we see what the end of the week will do.

We have accidentally alluded to *Zinnias*. Than these and the *Hedderwigii* and *laciniata* sections of Indian Pink few flowers are better, or remain longer fresh in small flower-glasses. We have nothing to say against the double flowers amongst such Pinks if the colours are bright; but among *Zinnias* we prefer single flowers to the double ones. This, of course, is merely a matter of taste.

Hollyhocks have been pretty well removed now; will plant a lot of young ones as soon as possible. Striking in any position, Hollyhocks always appear to us most beautiful when they are backed by evergreens, as Laurels or Hollies. Some rows of a good kind of Purple Spinach have also been cut down, as the dry weather brought it into seed prematurely and the tops began to wither. Regulated, tied, and slightly pruned Honey-suckles and Roses over arches. Fresh-budded Roses that have started will need protection. If no rains come we must water *Calecularias*, in order to insure cuttings about the middle of the month. The sooner the ground is prepared for fresh Roses



the better. Bulbs for forcing should be potted without delay. Those intended for beds, which will not be at liberty for a month or more hence, may either be potted or set on three inches of rough leaf mould, and covered with the same; they may then be moved to the ground in rooted patches. It will be necessary to have all the kinds named, so that they may be arranged according to blooming and heights.

Chrysanthemums showing bloom were afforded rich waterings, and it would be as well to place them so as to be able to give them a little protection from frost if necessary. Cinerarias in largish pots, keep as cool as possible under glass; Primulas as airy as possible under glass, preventing them being soaked with cold rains now. Geraniums of the florists' kinds should also be placed under glass, giving all the air possible, and no more water than is necessary.

All hardwooded greenhouse plants if not housed should be placed where they can be protected from frost and heavy rains. Many Camellias and Epacris do badly in winter, because, without showing it on the surface or readily on the foliage, the roots next the sides of the pot have been frosted before the plants were housed. Thinned climbers in greenhouse and stove, preparatory to a final thinning and cleaning ere long. All plants should be examined for insects, the drainage made efficient, and worms extirpated out of the pots before winter. All cuttings of Verbenas, Geraniums, &c., which are struck, should be kept as hardy as possible. Where glass is at command they will be better under it now, but with the sashes off in these fine days, and air on back and front at night, except when cold and frosty. The less of artificial heat all such plants have the better will they thrive, and the more free will they be from insects during the winter. In fact, the very best means for keeping insects away is a low temperature with plenty of air, for all such plants, yet high enough to be free from frost—say, ranging from 35° to 40°. In such a temperature, and the atmosphere pretty dry, the Verbenas will be free from mildew, while in a moister atmosphere and a temperature from 45°, and onwards, they will often be smothered with it. Coolness, a certain degree of moisture, and plenty of air, except when frosty, will keep Calceolarias all right, when a very little fire heat will bring the spot, the gangrene, and other diseases and evils. Coddling such plants with heat is their ruin.

Have begun to curtail water from the Amaryllis tribe, that have had a rather close pit to grow in during the summer. Cyclamens should now be set to work and watered. Syringe Violets with sulphur and quassia water wherever there are signs of the red spider, or even of mildew. For the latter the plants when rather damp on the leaves may be dusted with flowers of sulphur from a pepper-box, but one of a good size, if there is much to do. A dredger of any kind will do. Remove all runners from Neapolitan Violets. Only the crowns yield flowers for the first year. The runners if struck will make good plants for a second year. These, and double blue, and Russian do very well in pots, as well as in beds; but like Strawberries, they should, for winter-flowering, be well established in the pots in autumn.

Although many such matters have come under our attention during the week, the chief work has been collecting a few desirable seeds whilst the dry weather lasted, and putting in great numbers of cuttings of Geraniums and other bedding plants. We are thus late partly because we could not get at them earlier, and partly from choice, as we did not wish to break in on the regularity of the beds, and as yet we have no reserve ground to which we could go for cuttings. These reserve grounds are very useful for such a purpose, and also for supplying cut flowers. No beds will long stand cutting from without showing it. At this time we insert the cuttings thickly in pots or boxes, giving them about 1 or 1½ inch between cutting and cutting, and keeping them close under frames during the day, and giving air at night to prevent damping. They will generally be struck by the end of the month, and as the stiffest side pieces are used they take up but little room during the winter. As soon as roots are formed, of course plenty of air is given, unless in frosty weather. About the middle of the month, if no frost that would be dangerous threaten before that time, we shall commence with Calceolaria cuttings, slipping off the side shoots from 1½ to 2½ inches in length. We like them best when about 2 inches in length and with a firmish heel close to the older stem. Those plants that did best with us last year, were inserted as cuttings from the middle to the end of November after there had been a rather sharp frost. We have already mentioned that some of our rooted Calceolarias began to go off in the spring, and we attribute it to dibbling them in a mixture

of old and fresh soil. Fresh sandy loam suits them best. We believe a fungous matter was about the roots. They recovered after being turned out into earth-pits, and have done well during the season. Of course, those that looked very sickly were never turned out into the earth-pits at all, but were at once thrown away. Some kinds, rather new, that do well in certain places, seem too tender for us. We have seen Watson's Bijon, a neat dark one, do well in some places, but it seems too delicate with us, and for that colour we must use Victory, Crimson King, Victor Emmanuel, and others of that dark colour.—R. F.

### COVENT GARDEN MARKET.—OCTOBER 7.

The market remains much the same as last week, quotations being stationary. Dutch Hamburgh Grapes are unusually good this year, and equal to those now imported from Jersey. Melting Peaches may now be said to be over. Great complaints are made among farmers and growers as to the diseased state of the Potato crop.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....½ sieve	1	0	2	0	Melons.....each	2	0	5	0
Apricots.....doz.	0	0	0	0	Mulberries.....punnct	0	0	0	0
Cherries.....lb.	0	0	0	0	Nectarines.....doz.	0	0	0	0
Chestnuts.....bush.	16	0	0	0	Oranges.....100	10	0	20	0
Currents, Red ½ sieve	0	0	0	0	Peaches.....doz.	10	0	0	0
Black.....do.	0	0	0	0	Pears (kitchen).....doz.	1	0	1	6
Figs.....doz.	0	0	0	0	dessert.....doz.	1	0	2	0
Filberts.....lb.	0	9	1	0	Pine Apples.....lb.	3	0	6	0
Cobs.....do.	1	6	0	0	Plums.....½ sieve	2	0	4	0
Gooseberries, ½ sieve	0	0	0	0	Quinces.....½ sieve	3	0	4	0
Grapes, Hambro.....lb.	1	6	4	0	Raspberries.....lb.	0	0	0	0
Muscats.....lb.	3	0	6	0	Strawberries.....lb.	0	0	0	0
Lemons.....100	8	0	14	0	Walnuts.....bush	14	0	20	0

#### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.	
Artichokes.....each	0	4	0	6	Leeks.....bunch	0	3	to	0	0
Asparagus.....bundle	0	0	0	0	Lettuce.....Per score	0	9	1	6	
Beans Broad.....bushel	0	0	0	0	Mushrooms.....pottle	1	6	2	6	
Kidney.....½ sieve	3	0	5	0	Must.d. & Cress, punnet	0	2	0	0	
Beet, Red.....doz.	2	0	3	0	Onions.....per bushel	3	0	5	0	
Broccoli.....bundle	1	0	2	0	pickling.....quart	0	0	0	6	
Brus. Sprouts.....½ sieve	2	0	0	0	Parsley.....½ sieve	1	0	1	6	
Cabbage.....doz.	0	9	1	6	Parsnips.....doz.	1	0	2	0	
Capsicums.....100	1	0	2	0	Peas.....quart	0	9	1	0	
Carrots.....bunch	0	4	0	8	Potatoes.....bushel	2	6	4	0	
Cauliflower.....doz.	3	0	6	0	Kidney.....do.	3	0	4	0	
Celery.....bundle	1	0	2	0	Radishes doz. bunches	0	6	1	0	
Cucumbers.....each	0	6	1	0	Rhubarb.....bundle	0	0	0	0	
pickling.....doz.	2	0	4	0	Savoy.....doz.	0	0	0	0	
Endive.....score	1	0	2	0	Sea-kale.....basket	0	0	0	0	
Fennel.....bunch	0	3	0	0	Spinach.....bushel	2	0	3	0	
Garlic and Shallots, lb.	0	8	0	0	Tomatoes.....½ sieve	1	0	2	0	
Herbs.....bunch	0	3	0	0	Turnips.....bunch	0	4	0	6	
Horseradish.....bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0	

### TRADE CATALOGUES RECEIVED.

Louis Van Houtte, Ghent, Belgium.—*Catalogue de Plantes de Serres.*

William Paul, Waltham Cross, London, N.—*Rose Catalogue, 1865-6.*

Ambroise Verschaffelt, Rue du Chaume, 50, Ghent, Belgium.—*Plantes Nouvelles.*

### TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (Q. B.).—The "Fruit Gardening for the Many" can be had free by post from our office for five postage stamps.

ACORN VEGETATING OVER WATER (*Sam Weller*).—No doubt it would do if in a bottle so that the air about it was kept moist.

GARDEN PLANS (*Mrs. Fairfax*).—You had better write to Mr. Chapman Garden Designer &c., Richmond Surrey.



**CLEMATIS LAMUGINOSA (Leighton R.).**—There is a large lavender-coloured flowering Clematis, blooming in summer, under that name, and it is one of the very best. There is a variety with paler flowers, and even larger in size, which may be the same as your kind with grey flowers. The name of the species is Clematis lamuginosa, and its variety is Clematis lamuginosa pallida. Both are of the most easy culture, requiring a rich well drained soil, and a trellis against a wall; or, in warm situations, the trunks of trees may be covered with them. They are also fine plants for the roof of a cool greenhouse or conservatory.

**SOWING VIOLET SEEDS (Idem).**—The seeds of Violets are best sown in the open ground, and immediately they are ripe, in light sandy soil, covering them lightly, and watering if dry weather ensue. When sufficiently large to handle prick the seedlings off 3 inches apart in good light soil, with which a liberal dressing of leaf-soil has been worked in. Water after planting, and subsequently during dry weather. They may be sown next March in pans of light soil, or in April in the open ground; in the former case place the pans in a cold frame, and, when the seedlings are large enough, prick them off and finally plant out in autumn.

**PAMPAS GRASS NOT FLOWERING—PROTECTING IN WINTER (A Subscriber).**—It is remarkable that the plant which you have had for ten years has never flowered. Surely the soil is very poor, and very light and dry in summer, and the situation bleak and exposed, so much exposed indeed as to cause the foliage to be cut off to the ground every winter. We should advise transplanting next April, taking up the plant with a good ball, which is easily done, for it is difficult to remove the soil from the closely matted roots; then take the ball and plant clean out. The opening should be 1 foot wider than the ball all round, and if there is a piece of naturally strong ground, wet, but not stagnant, that is the situation for it. Fill in around the ball with the richest compost that can be made, say equal quantities of loam from rotted turves and manure well-reduced, and give a good soaking of water. It will drink up thirty gallons per week of liquid manure during dry weather throughout the summer. From the miserable specimens of this Grass we have met with it seems as if the aim was to starve them into flower. There is not a plant in the country above four years old that would not be better taken up next April and served in the above manner. You may protect the plant in winter by tying the long grass up straight, and covering with straw as in thatching, and then fasten with hay bands to keep the straw from being displaced and blown about.

**YOUNG CUCUMBERS TURNING YELLOW (A Young Gardener).**—This arises from a deficiency of bottom heat and a moist stagnant atmosphere, with a deficiency of heat by day and too much by night. These are conditions inimical to free growth. An unhealthy state of the roots is indicated by the leaves turning yellow, and the blotching is produced by an excess of moisture and the sun shining on the leaves whilst wet from the deposition of moisture on them during the night, air not being given sufficiently early to dry it up. A brisk heat of 70° by day without sun, and of from 55° to 60° at night, with a little air, may be given, and with more sun more heat by day, a greater amount of air being afforded. Soil sufficiently moist for healthy growth, but not wet, and a moderately moist atmosphere, are the essentials at this season. For want of details we cannot do more than conjecture the treatment from similar cases.

**STRIKING BEGONIA LEAVES (Idem).**—This may be done at any time. If the leaves chosen are not too old, if the atmosphere is moist, and the heat brisk, they root freely. Spring, however, is the best time.

**TRICHOMANES RENIFORME CULTURE (F. E. H.).**—If the plant is healthy, and seems to have been potted some time, though against all rules for Trichomanes, it would be well to leave it alone. You will, by this time, be able to see whether it promises to do well, if not report it. It is a very distinct creeping species, with nearly round, undivided, deep green, beautifully veined fronds, heart-shaped at the base, and 4 or 5 inches broad, on tall wiry stalks. It is a native of New Zealand. It requires to be kept very humid, but rather airy. A temperature of from 40° to 50° in winter, and of 70° in summer, suits it well.

**BRUMANSIA LEAVES DISCOLOURED (Idem).**—The leaf appears healthy, and the discoloration so slight indeed as to quite puzzle us to observe any on the part of leaf sent. One side of the leaf is quite gone, and that appears to have been scorched by the sun shining on it whilst wet. A little air all night and early in the morning will, to a great extent, obviate this. The white specks are caused by the punctures of some insect; but not by thrips nor red spider.

**CONSTRUCTING GROUND VINERY (Clericus).**—You will find the directions and a drawing in "The Vine Manual." You can have it free by post from our office for thirty-two postage stamps.

**ICE-HOUSE (A Man of Kent).**—Enclose four postage stamps with your address, and order No. 173 (New Series) of our Journal to be sent. It contains a drawing and full directions for constructing an ice-house.

**POINCIANA REGIA (H.G. Bangalore).**—A coloured plate is in the "Botanical Magazine" t. 2884. This gorgeous tree has hitherto been found only in Madagascar. It belongs to Nat. Ord. Leguminosae. Linn. Dodecandria Monogynia. Unarmed; leaves abruptly bipinnate; eleven to eighteen pairs of pinnae, which are 4 inches long; horizontally patent; petals crimson, orbicular, crenate at the margin, involute at base. It is called Tanahon in Madagascar.

**ROYAL HORTICULTURAL SOCIETY'S KENSINGTON GARDEN (G. Elliott).**—A plan of this was given in No. 607 (Old Series), which you can have post free by sending your direction and four postage stamps. No doubt some of the London seedsmen could procure seeds of the variety you name.

**PACKING GRAPES FOR EXHIBITION (An Exhibitor).**—Yours is a somewhat difficult question to answer, for various modes are adopted with varying success according to the distance which the Grapes have to travel, the mode of conveyance, and the usage which they receive on the way. The plan which, judging from what we have seen, seems to be attended with most success is attaching the bunches firmly to the stand on which they are exhibited, and so that they cannot shake about, and then to pack the stand immovably in a box in which they are to be conveyed to their destination. This box must be kept in a horizontal position throughout the journey, otherwise the Grapes will be more or less damaged. If you have been in the habit of attending shows you will doubtless have heard from your brother exhibitors of the anxieties which they have experienced on this point, even when accompanying their fruit, and few of them trust to the mercies of railway porters. You will learn much by observing the modes which other exhibitors adopt.

**PLANTS FOR A PASSAGE (L. P.).**—The greatest drawbacks to your growing plants in the passage will be the deficiency of light and the probability of draughts, combined with extreme dryness. If the air is never violently agitated by a thorough draught, the passage would be a tolerably good place for such Cyclamens as comi, Atkinsi, and persicum whilst in flower, also for Primulas and Camellias; and some of the hardier kinds of greenhouse Ferns, as well as hardy ones, may remain there permanently, or for a lengthened period, introducing among them flowering plants of the above, and forced Bentzias, Dielytras, Hyacinths, Tulips, Crocuses, &c., to be afterwards replaced by Cinerarias, Calceolarias, and Polargoniums. It is one of those situations in which plants may be placed whilst in flower, but which are of very little use for their growth, for the air will always be too dry. You will, therefore, see that what you can spare from your greenhouse will do in your glazed passage until the flowering is past, when they must be placed in an atmosphere more favourable to their growth. In the same way the Ferns should be placed in the greenhouse to make a good growth, and when the fronds are fully developed if they are removed to the passage they will retain their beauty for a long time.

**TROPEOLIUM SPECIOSUM CULTURE (J. L.).**—It is best grown in a compost of one-half turfy light loam, and one-half peat and well reduced leaf-mould in equal parts, with a free admixture of sand. The plant's not growing more than a few inches may be attributed to dryness of situation, or to an unsuitable soil, and cold exposed situation. Planted in light soil, or gravel enriched by a liberal application of leaf-mould, it grows freely, and if trained on a trellis against a wall with a south or south-west aspect it will attain from 5 to 8 feet in height in a season, but the plants must be established for a year or two before this growth can be expected. Treat it as a perennial, covering the surface of the soil over the roots with 3 inches of leaves or short dry litter. In order to make it succeed well outside it is necessary to plant out strong plants, giving them a rich well-drained soil, copious supplies of water, and a warm sheltered situation. It does best in a porous soil on a dry subsoil.

**ALTERING AND IMPROVING A GARDEN (E. S. Mitcham).**—Your proposed alterations seem to be good, and your objection to a high or steep bank for Roses is also well founded, for your soil being dry such a bank would only make it still drier. Laurustinus not being the hardiest of shrubs will be much battered and injured by cutting winds, and will suffer during severe weather. Laurels would be more suitable, and any objection which you may have to their growing higher than is required to screen the kitchen, or so spreading as to interfere with the Roses, may be obviated by cutting them in to the desired height and width every year in August, after the year's growth is made, or in April before these commence. The Roses would do well on their own roots on such a dry soil, or, if on a stock at all, it must be the Manetti, as the Dog Rose would give numerous suckers on your soil. No evergreen will succeed well under Yew trees, and, as these have no pretensions to ornament and render the grass very shabby, we would cut off the branches that overhang the grass, and if the trees are not wanted higher than the wall, to screen the view of the house from windows on the opposite side of the road, cut them off equally all round, taking off the tops, and thus convert them into cones and pyramids of deep green foliage. You need not fear that the trees will not push afresh from the branches left, for they will do so as freely from the trunks as from the shoots of the previous year. This cutting-in may probably expose the wall, which you no doubt would wish to hide. The wall in that case might have strong Ivy planted against it, and the Ivy, if liberally treated to fresh rich soil, good-sized openings being made for the reception of the plants, would cover it in a few years. The Yews being cut-in, grass might be laid to within a short distance of them, and the lawn so gained would be available for flower-beds, especially as it is in front of the drawing-room windows. Unless you cut down the Yew trees, or reduce them considerably, it would be of no use to plant anything in the border under them, unless the branches are at some distance from the ground, when the latter might be surfaced with Periwinkle and Ivy. Were they cut-in you might plant Aucubas, Berberis aquifolium and Darwins, and Laurustinus with a fair prospect of success.

**TWELVE EXHIBITION STOVE PLANTS TO BLOOM IN AUGUST AND SEPTEMBER (W. H. W.).**—Plants for exhibition purposes are not always shown at their proper period of blooming, but are retarded or forwarded should they not be likely to flower by a certain date. For these and other reasons, which you will learn by a little experience, you will find that blooming a collection of twelve plants in a stove at a given time is difficult to accomplish by growing that number only. More than this, schedules are seldom if ever framed for the exhibition of twelve stove plants, but for twelve stove and greenhouse plants. However, twelve stove plants: Rondeletia speciosa major, Schubertia graveolens, Ixora javanica aurantia, I. alba, Echites splendens, E. crassinoda, E. magnifica, Cyrtoceras reflexum, Clerodendron Thomsonae, Eschymanthus splendens, Allamanda Schottii, and A. grandiflora. Those you have seen—viz., Aphelandra cristata, Stephanotis floribunda, Ixora coccinea superba, Clerodendron fallax, and C. Kennerlyi are also good. All may be cultivated by an amateur; but though of easy culture fine specimens are not to be had without extra pains being taken, neither are they so easily grown as many in the list of stove plants.

**ARTIFICIAL MANURES (H. B. B.).**—You neither mention the nature of the soil of your garden nor whether you require the manure for flowers or kitchen vegetables. You can have free by post the manual entitled "Manures, or Muck for the Many," if you send four postage stamps to our office with your direction. Read that, and then write again to us if you need further information.

**COMMON SALT AS A MANURE (T. L. M.).**—The best reply we can give you is the following extract from the little manual "Manure, or Muck for the Many"—"You can have it free by post from our office for four postage stamps—"Common salt, applied in the spring at the rate of twenty bushels per acre, has been found very beneficial to Asparagus, Broad Beans, Lettuces, Onions, Carrots, Parsnips, Potatoes, and Beets. Indeed, its properties are so generally useful, not only as promoting fertility, but as destroying slugs, &c., that it is a good plan to sow the whole garden every March with this manure, at the rate above specified. The flower garden is included in this recommendation; for some of the best practical gardeners recommend it for the Stock, Hyacinth, Amaryllis, Ixia, Anemone, Colchicum, Narcissus, Ranunculus, &c.; and in the fruit garden it has been found beneficial to almost every one of its tenants, especially the Cherry and Apple. On lawns and walks it helps to drive away worms, and to destroy moss."



**CAMELLIAS MAKING SECOND GROWTHS** (*Prunus*).—This is by no means uncommon, and is mainly due to maintaining the plants in a moist growing heat after the first growth is made, and to the soil being kept moist, and the roots having abundant pot room. Camellias very often make second growths in consequence of having been checked whilst making their first growth, either from a deficiency of moisture in the atmosphere or at the root, and when a return is made to an atmosphere conducive to growth, fresh shoots are made instead of the buds already formed swelling. The new growths indicate a vigorous root-action. To prevent the buds falling keep the soil neither wet nor dry, but moist, and let the plants have the advantage of a well ventilated glass structure and a temperature of from 40° to 45°.

**LILUM ATRATUM** (*Idem*).—It is just likely that the plant in the cool position was ready for free growth and came into flower sooner than the plant in the warmer position, which might be a bulb less ripened, or so dry as to remain at a stand-still, and so cause the later flowering. It is also certain that the falling of the leaves after the flowering of the second root was induced by the plant being kept much drier than the other either at the root or in the air, which caused the growth to be perfected sooner, hence the falling of the leaves at once. Under the same treatment the same species of plant will flower at different times, some individuals sooner and some later than others. This is constitutional, occurring in the case of the progeny as well as in that of the parent, but what causes this earliness of flowering and ripening of the growth remains a mystery, though it might be explained by those cultivating the plants so affected from their noting the treatment. The one may have had rich soil, the other poor soil, and this alone would cause a difference in the time of flowering, and of the ripening of the roots, and consequently of the fall of the leaves.

**MARANTA VITTATA** IN WINTER.—**STEPHANOTIS FLORIBUNDA** NOT FLOWERING (*Idem*).—The Maranta should be kept dry at the root in winter, but the soil must be sufficiently moist to keep the plant from drying up. It will require in winter about one-sixth the quantity of water that is necessary in summer when the plant is growing freely. The Stephanotis, if trained near the glass and kept dry at the root after the growth is made, should flower freely. We fear the plant is induced to make new growths in a close atmosphere, that the pot-room is too limited, and the supply of water copious after growth is made. We pot ours immediately after blooming—that is, in May, plunge the pot in a mild bed of tan at one corner of a Pine-pit, and keep moderately moist until the roots have taken hold of the fresh soil, and new growths are being made. The supply of water is then copious, and the shoots as they grow are trained neatly over a wire trellis. The plant has the benefit of a moist heat until September, when the atmosphere is kept drier, diminishing the supply of water at the root until in November none is given. It receives as little water as the Pines during winter, but should the leaves become rather soft a little is given; after March more water is afforded so as to keep the soil just moist, and when in flower it is plentifully supplied. Similar treatment, we think, would cause your plant to bloom. The drainage should be perfect, two-thirds turfy peat, and one-third turfy loam, with a free admixture of sharp sand form a suitable compost. Too much vegetable matter, as leaf-mould, in the soil causes the production of strong and very long shoots, and such are not likely to flower.

**PRESERVING MOUNTAIN ASH BERRIES** (*P. Prior's Marston*).—The method we should adopt for preserving the bunches of Mountain Ash berries for the Christmas decoration of a church, would be to cut off the bunches and hang them across strings in a cold cellar.

**MEALY BUG ON VINES** (*T. B.*).—Vines attacked by it should have every branch and stem brushed over sedulously with a hard brush, and then with a painter's brush as thoroughly painted over with this mixture:—Soft soap, 2 lbs.; flower of sulphur, 2 lbs.; tobacco, 1 lb.; and a wine-glass of spirit of turpentine. Mix the sulphur, turpentine, and soap into a paste with warm water; boil the tobacco for an hour in a covered saucepan in some more water, strain it, mix it with the soapy mixture, and then add enough water to make five gallons. More tender plants can only have their stems and leaves sponged with water at a temperature of 115°, frequently, and so long as a single insect can be detected.

**PLEUROMA BENTHAMIANA** AFTER BLOOMING (*A. Subsericea*).—The plant may now be cut-in, or after it has done blooming; and when it has made new shoots a few inches long it may be repotted, without, however, disturbing the roots much at this dull season.

**FERN IN SPHAGNUM AGAINST A WALL** (*E. G. H.*).—We have no recollection of the communication you refer to. There is no difficulty about fastening moss against a fernery wall. Nail up wide-meshed galvanised iron wire, and pack in the moss as the nailing-up proceeds. There is a good direction for forming fernery rockwork in our No. 437, in vol. xvii., page 324.

**GROUND VINERIES** (*I. T.*).—They are not sold ready made. Any country carpenter and glazier could make them.

**NAMES OF FRUIT** (*C. S.*).—6, Glou Moreau; 7, not determinable; 8, Chaudmontel. No others came into our hands. (*G. B.*)—Your numbers commenced with 8, which is Cornish Aromatic; 9, Adams' Pearmain; 10, Bourre Bosc; 11, Urbaniste; 12, Bourre Claircau; 13, Cox's Orange Pippin; 15, Bourre Die; 16, Duchesse d'Angoulême. (*M. P.*)—1, like Bellissime d'Hiver; 2, Haeou's Incomparable; 3, acid and worthless; 4, Blenheim Orange. Plants are not determinable with certainty without flowers. (*C. W. H.*)—A basket of Pears, with the leaves, from Lancashire, without any indication from whom it came, we presume to be yours, the handwriting being apparently the same; 1, Bourre Bosc; 2 and 7, Winter Nelis; 3 and 12, Urbaniste; 4, Eyewood; 6, Passe Colmar; 8, Easter Bourre; 9, like Althorp Crassane, seems not suited for your climate; 10 and 13, Glou Moreau; 11, Bourre Die; 14, Bourre Rance; 16, Napoleon; 17, apparently Brook Park. (*Purus Malus*).—Apples: 7, Court-pendu-Plat; 9, Relette Blanche d'Espagne; 7, Pearson's Plate; 8, Danelow's Seedling; 3, Blenheim Orange; 10, Hollandbury; 11, Golden Russet; 12, Boston Russet; 14, Adams' Pearmain; 20, Court of Wick; 23, Alexander; 24, Waltham Abbey Seedling; 25, Gloria Mundi. Pears: 1, Van Mons Léon le Clerc; 2, Passe Colmar; 4, Bourre Die; 5 appears to be Figue de Naples; 7, Althorp Crassane; 8, Eyewood; 9, Knight's Monarch. Of the rest some had their numbers detached from being fixed on with pins; others were not determinable.

**NAMES OF PLANTS** (*J. W. O.*).—1, Pteris tremula; 2, a young silver Gymnogramma—perhaps pulchella. (*F. E. H.*).—A Lygodium, probably japonicum. (*X. D.*).—Lilium tigrinum—tiger-spotted Chinese Lily. (*A. Young Gardener*).—1, Pteris scaberula; 2, Nipholobus rupestris; 3, Blechnum, young; 4, Asplenium fontanum; 5, Pleopeltis venulosa; 6, Pteris hastata macrophylla; 7 and 8, Platyloma rotundifolium; 9, Adiantum capillus-Veneris; 10, 11, and 12, Selaginellas, unnameable; 13, Asplenium trichomanes; 14, Blechnum spicatum. (*F. S. P.*).—Lastrea gemula. (*D. S.*).—Clematis tubulosa. The Grape is Esperione. (*Holmwood*).—Schomburgkia tibeticus, var. (*Elizabeth*).—Miraldisjalapa. (*Sam*).—6, Polygala cordifolia; 7, Erica multiflora; 8, Cassia floribunda; 9, Parnassia aculeatus. (*Eskdale*).—Verbascum blattaria. (*T. S.*).—1, Eupatorium cannabinum; 2, Erythraea centaurium; 3, Scabiosa succisa; 4, Plantago coronopus. (*J. L.*).—Dimorphanthus elatus.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 7th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 1	29.998	29.859	71	38	59	59	E.	.00	Foggy; very fine.
Mon. . . 2	29.980	29.892	71	50	59	58½	E.	.00	Fine; very fine throughout.
Tues. . 3	30.171	30.086	70	30	59	58½	E.	.00	Lazy; very fine; cold at night.
Wed. . 4	30.162	30.064	67	27	58½	58½	E.	.00	Foggy; dry haze; very fine; below freezing at night.
Thurs. . 5	29.998	29.955	69	25	58½	58	E.	.00	Slight fog; cloudless, with hot sun and dry air; frosty.
Fri. . . 6	29.997	29.952	70	26	57	56	E.	.00	Foggy; fine; very fine; frosty at night.
Sat. . . 7	29.903	29.587	68	44	55½	56	E.	.06	Slight fog; very fine; overcast; rain in the night.
Mean..	30.029	29.913	69.43	34.28	58.07	57.78	....	0.06	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### THE MURRAIN—A WARNING TO POULTRY-KEEPERS.

"I CANNOT endure a man with only one idea," said a friend to us. We winced a little, for we are apt to gauge all things as they bear on poultry. We are in days of alarm, and it is the fashion to talk of plagues, pests, and epidemics. Cattle, sheep, and pigs are suffering. "Suppose," said Sydney Smith, speaking of locking-in on railways, after enumerating the notabilities who might suffer in the event of a carriage catching fire, "Suppose," said he, "one of the bench of bishops should be burnt! why, Sodor and Man would be better than nothing." So we say: Suppose poultry really should be attacked, what should we do?

We have the murrain in our district, and have taken great interest in the treatment. In the first case, we saw an angular pre-Raphaelite-looking cow standing in "most melancholy mood" under a tree, surrounded by five or six men, each holding a bottle. One said, "Brandy;" another, "Glauber salts;" another, "Strong beer, with burnt tobacco in it;" then, "A painful of gruel, with a pint of castor oil in it;" the last produced a piece of newspaper he had carefully kept, because it contained a certain cure; but on opening it found to his dismay nothing but advertisements. He had inadvertently lighted his pipe with the remedy the night before. "No great odds," he said, "for the cow was dying." All the remedies were tried, and the animal was yet alive, when some one saw an old copy of the "Times," wherein it was stated that water in which lots of rusty iron were put was a cure. All the remedies were tried, yet the cow lived!

The most successful treatment has been homœopathic. While we were considering these things, and while we were asking our-

selves what we should do if poultry were attacked, we saw the *Times*, and were after dinner dosing over the foreign correspondence, when we were suddenly aroused by reading that much alarm had been caused by the appearance of a poultry plague in some parts of France, which had already caused heavy losses among the farmers. Then we read of the same thing in Ireland. Our first impression was "They manage these things better in France." Fancy English farmers in a state of consternation because there was a murrain among the fowls. Eggs might be missed at the breakfast table; Ducks and chickens might be *desiderata* at times; but in an English farm, so far as profit and business are concerned, poultry is viewed more in the light of a tolerated nuisance than as an income. In the teeth of this, professional men, with but scant leisure, and having everything to buy, keep poultry (and many thanks to them)—good accounts, whereby they prove they make a profit of their hobby. Why does the idea of a poultry plague cause consternation in France? Because millions of eggs come to this country every week; because the Pigeons, the Geese and Turkeys are with them what they should be—"farming stock." And here we would observe, let it not be thought that all poultry-breeders abroad are small men. We have visited places where poultry was "to the fore," and the acreage of the farm considerably over five hundred. The eggs, the birds, all enter into the weekly computation, and all go to market. It is not necessary that the mistress or her daughter should take them.

We are not partisans of the opinion that because a man is an agriculturist, farming five hundred acres, and employing a capital of five thousand pounds, his wife ought at daylight to be milking, his daughters cramming poultry, or that the farmer himself should address every young lady as "Miss," and pull a fore-lock. Things are changed from the day when the farmer's wife rode on a pillion behind her husband to market, and took her seat in the market to vend her butter, eggs, and poultry. It is no longer the fashion of the times. Trade is trade. We are not going into the question of classes, which has split up society. We hold that every man who works for his livelihood, and honestly fulfils his vocation, is entitled to respect, and to those indulgences for himself and his family which he can pay for.

We make these remarks because we want a larger breed of poultry, greater production of eggs, and altogether more active production of food. The question is on the eve of becoming a serious one. Men are asking themselves what they can fall back upon if the cattle murrain become a more serious question than it is now. Already, beef at many tables causes every one, like Nelly Cook, to "look askew." Alarmists run about the country, and tell those who are "gaping" for something fresh that the "clever men" have discovered there are certain parasites in pork that are not killed by heat, and are taken into the system with pork. What a pity! A nobleman said to his cook one day, "Give me something new for an entrée." The "artiste" put himself through his vocabulary. "Suprême de Volaille," "Cotelettes aux pois," "Poulet à la Marengo" "Ris de veau sauce tomate," "Cotelettes aux concombres," "Grenadins de veau aux olives," "Filets de Chevreuil sauce piquante." Nothing would do. The "chef" scratched his head, and vowed his vows to ——. Who was the god or goddess of cookery under the "ancien régime?" We cannot recollect, or we do not know. But his prayers were heard. "I have it, my Lord." "What is it?" "Two necks of very young pork cut carefully into cutlets, correctly braised, dressed on a mould of stiff apple sauce, a border of mashed potatoes round the dish, and a "Soubise," with a smart dash of sage for sauce." "Capital!" L'entrée fit fureur. Pork, sage and onion, and apple sauce! We would at any time face the parasites for such a dish.

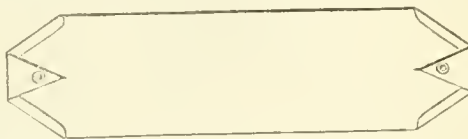
Our anecdote would be out of place were we not treating of the present probable scarcity of food, and the straits to which we may be reduced. If quadrupeds fail in supplying the wants of our increasing population, we must see what our resources are. We believe poultry, and above all eggs, will be found valuable adjuncts. Our capabilities in the way of meat seem to be at the end of the tether. We are obliged to draw largely on Holland and Spain, and get both meat and murrain. We cannot go into the question of fish; but poultry and cookery will stop many a gap, and will induce habits that will last. We wish to increase the supply of both. Eggs are Protean; they have a hundred different forms, and never lose their nutritive properties. They are things that every one likes, and there is many a worse dinner than three new-laid eggs and bread and butter to match.

But if disease gets among the fowls we shall be short of eggs. Forewarned is forearmed. Do not keep unnecessary birds; by such we mean cripples, and worn-out fowls. Let their places be scrupulously clean. As the weather becomes colder feed the fowls better, but without overfeeding. Watch narrowly, and remove sickly birds at once.

### LABELS FOR POULTRY TO BE EXHIBITED.

The time is approaching for holding the great Birmingham Poultry Show, and I would suggest to the Committee that improved hamper-labels to those hitherto used by them would be desirable. The exhibitors who have sent poultry there know well the trouble and time required to fasten on a number of hampers the Birmingham old-fashioned labels with four holes, and there is now in use by many other Committees an improved one, with a single hole at each end. These labels also require no cutting of strings, but can be easily turned over when the hampers have to be repacked and sent to their destination.

I append a sketch of one.



—SELINI.

### DUCK-FOOTED GAME FOWLS.

IN some of your recent impressions a correspondence has been carried on between Mr. Hewitt and a correspondent writing under the signature of "J. H., on the question of how far a fowl's being duck-footed should disqualify it for receiving a prize. If I may be permitted to offer a suggestion, I should submit that the real point at issue lies between the two extremes. It is quite possible that there may be a tendency in a bird towards being duck-footed without his absolutely being so; or it may have the defect in one foot and not in the other; besides which, if I correctly understand Mr. Hewitt, where a bird has in all other respects the advantage over its competitors, he would not disqualify it from the circumstance of its being somewhat inclined to be duck-footed.

One fact relative to Mr. Hewitt, which should not be forgotten, is, that every exhibitor of poultry feels a degree of satisfaction on learning that he is to be the solo judge, from the feeling that he will make an honest award of the prizes, although, like all other fallible beings, he may occasionally err in his judgment.

I fear the same cannot be said of all; certainly the same degree of confidence is not felt in some, to which may be attributed the circumstance of so many having discontinued to exhibit; and it will be patent to every one who reflects—that a breeder and exhibitor of any length of standing, must possess as correct a knowledge of the points of merit in a bird as a professional judge; and when he sees his fowls unfairly dealt with, naturally retires from the contest in disgust. In proof of this, I need only mention the last two Birmingham Shows, and the great dissatisfaction manifested—a circumstance which cannot have escaped the memory of many of your readers; and the fact of the principal prizes finding the same destination where a certain party is connected with the judging, to say the least, wears an air of suspicion. Understanding that the Birmingham Committee do not contemplate making any change in their Judges of Game Fowl, and as Mr. Jennison, of Manchester, has brought out a very liberal prize list—the exhibitors having, moreover, had general confidence in the Judges he has appointed—I think, unless the Birmingham Committee pursue a new and improved course, exhibitors could not better mark their sense of such conduct than by passing the Birmingham Exhibition by and patronising Mr. Jennison.—EXHIBITOR.

### SICKNESS AMONG POULTRY.

I AM sorry to say the disease among poultry is no fancy; there is a good deal in this neighbourhood. My yard is considered by my farmer friends to be absurdly well taken care of. There are a good house, kept scrupulously clean, all the adjuncts of dust bath, water pans, dry runs, and three fields of



three acres each, in which the fowls have full liberty, good food, and plenty of it; but all in vain. I have just lost a Brahma cock for which I gave £1 1s. a short time since—the third, which has died in the same way. He seemed moping, and I found him very thin. The only noticeable ailment was a difficulty of breathing after eating, and an inflamed mouth and tongue, with little ulcers on it. In spite of careful nursing and feeding he died; the comb and eyes were bright to the last. The hens seem to escape better; I have only lost one; but the young chickens are dying rapidly; seemingly well one hour, and the next evidently dying.

One peculiarity in the cocks was a constant shaking the head, but no gaping, nor indeed any symptom to guide me as to their malady. I shall be glad if any one can suggest the nature of the complaint or a cure.

I have a complaint among the Ducks also. They are fat and well one day, and the next the crop looks greatly distended, but no food in it. The voice becomes a harsh croak; they refuse to eat, but drink incessantly; diarrhoea follows, and in two or three days they die. Up to the present time they have been remarkably fine Ducks, in capital condition. As I have lost several I shall be much obliged for any light thrown on their disease and its treatment.—M., *Sunny Vicarage*.

[We believe that if the livers and intestines of your fowls and Ducks had been examined that one or other, or both of those viscera, would have been found ulcerated. It is a disease usual in autumn, and might be expected to be more than usually prevalent this year, for we believe it is occasioned by the extreme variation between the day temperature and the temperatures of the night and early morning.]

### POULTRY SWINDLING.

THE inquiry of "C. A. G.," in your last, and your reply to it, opens up a subject which has, I feel sure, been much needing discussion for some time past. Every amateur who buys or sells valuable poultry must have met with similar cases to that of "C. A. G." I have lost several choice birds through sending them to unknown correspondents on the faith of their promise to send payment; and yet you say, "We are at a loss to account for any one sending money to a total stranger before they receive the goods." The fact is, there are some difficulties on both sides, and it is well known that there are numbers of poultry sharpers who profess to buy and sell, and who look out for advertisements likely to afford them opportunities of swindling. Cannot some plan be adopted by which references can be given to you as security for the position and respectability of amateur poultry dealers?

Some time ago a person wrote to me under the name of Firebrace, for a valuable pen of Buff Cochins. The letter appeared to be that of a lady, and I forwarded the birds. No payment has ever been made, but I received a request for more (which I did not send), and from that day to this I have not been able to discover the rogue. Could not some arrangement be made by which, on your keeping books of reference, such as the "Clergy List," Medical and Law Lists, and Post Office Directories, inquiries might be made through you of all doubtful cases. A very small sum contributed by all your subscribers would furnish sufficient to defray the cost of these, and either buyers or sellers, if they have any position at all, would easily be recognised. I merely, through your columns, wish to throw out a suggestion which possibly may be put in a more practical form by some one else who has been like myself—A SUFFERER.

[We would readily aid in protecting our subscribers in the mode suggested, if we did not foresee that it would involve an amount of anxiety, consumption of time, and responsibility, for which no payment could compensate. We the less reluctantly announce this conclusion, because every vendor and every purchaser may most easily be his own protector. If a purchaser unknown to us applies for poultry, we invariably write to some one in his vicinity, or, with a stamped and directed envelope enclosed, to the head of the police in the district. If we wish to buy we never do so without first seeing the birds, and if we thought we were unknown to the seller, we should send a reference when we made an application for an inspection of the birds, and give a promise to prepay the carriage if we declined purchasing. But if there were any difficulty about obtaining a reference, all such difficulty can be avoided where prepayment is required, by the purchaser availing himself of this postal rule relative to money orders:—

"Rule 50. In order to enable the remitter to obtain an acknowledgment of the receipt of a money order before the money is paid, it is arranged that he may make his order payable ten days after date, provided that, in the presence of the Postmaster, when he obtains the order, he affixes thereto, in the space after the request C., a penny receipt stamp, and write his signature across the stamp."]

### OSWESTRY POULTRY EXHIBITION.

OCTOBER 5TH.

To many of our readers, no doubt, it will be well known that the supply of live poultry for table purposes has, for a long series of years, been a principal feature of the Oswestry market. Indeed, long prior to the institution of railways, dealers from towns so distant as Manchester, Liverpool, Wolverhampton, Chester, and Birmingham constantly attended this weekly market, and as from year to year the demand increased so has the supply also augmented, until Oswestry holds position among the principal markets of the kingdom for live poultry generally. At length a few local breeders of the surrounding district thought an exhibition of poultry, to be held annually, would arouse a spirit of useful competition, and tend still further to improve the quality of the poultry that was customarily at that time brought to market. Although some of its first promoters are now dead, still the acting Committee of the present hour are evidently men who do not intend to let the matter sleep, but to push onwards until Oswestry Show shall hold its own among even the most noted of local poultry meetings.

At its first institution the birds were all exhibited in pens erected in an open field, and, as it then happened that heavy and continuous rainfall ensued, ample provision was this year made to provide against such an exigency, should it unfortunately arise. We are glad to say that the weather was, on the contrary, as fine as could be desired, accompanied by bright sunshine. The tent provided, however, still proved quite a luxury, not only as giving the most welcome shade to the numerous visitors, with which it was constantly well filled, but also an equally appreciable amount of comfort and ease to the really excellent collection of fowls, for which it was especially engaged. The tent itself was 120 feet long by about one-third that width, whilst the height was most ample, and the expense of hire only £8. It would easily have accommodated three or four hundred pens. A tent even ten yards longer can be engaged for £10, which includes all expenses; consequently few Committees can longer plead the item of expense, as forbidding this call upon their exchequer, nor need we hear the complaints, so frequently urged by owners, of birds being ruined by exposure.

It is pleasing to record the fact that only one pen of poultry showed any symptom whatever of disease; they were from Whitehaven, and were very properly not permitted entrance to the tent. Though excellent in quality, the condition of this one pen was absolutely "filthy," and it was most undoubtedly very reprehensible of the owner to send them out in such plight, as it was evidently a disease of long standing, strongly confirmed, and of a highly contagious character. The prompt vigilance of the Oswestry Committee is, therefore, the more worthy of approval in at once excluding them and returning them unpenned.

The Game classes were of very high character, and, as no limits was placed on the competition, many specimens from distant localities were entered, thus well-filled classes resulted. Mr. George Owen, of Plas Issa, Oswestry, however, managed to make a clear sweep of the prize list, with specimens of both Black-breasted Reds and also Duck-wings, that would greatly add to the credit of even the largest of our shows. Mr. Burgess, of Whitechurch, also exhibited some Brown Red Game fowls, such as leave little room for improvement when a couple of months older. In Grey Dorkings the Show proved very strong; Mr. Zurhorst, of Dublin, however, took first prize with a most lovely pen, and shown in such condition that few persons would have credited that they had travelled so far; indeed, their condition was faultless against a capital competition. Mr. Edward Shaw, of Plas Wilmot, Oswestry, gained the second premium. In Partridge-coloured Cochins the Oswestry class was a show in itself; it is long since we saw so many and so good ones at any one meeting. Mr. Tudman, of Whitechurch, carried off both premiums, with birds as excellent in colour as they were perfect in feather. This gentleman's yard, strengthened as it has been, we are told, by the purchase of the whole of the Partridge Cochins belonging to the late Mr. Peplow Cartwright, of Oswestry, will now doubtless be very successful during the season without much difficulty. In Buff Cochins we confess disappointment, only two pens were entered; the principal prize birds of Mr. Tomlinson, of Birmingham, consisting of a first-rate cockerel, but the pullets were by no means A1. Mr. Zurhorst, of Dublin, was winner of the second prize in this class. The class for Spanish fowls (all of this year) were the best collection yet shown in 1865. The most barefaced case of "trimming," till not a single feather remained between the eye and comb, in a really good pen of Spanish, here met with its deserts, being passed over; they would probably otherwise have been successful. The Hamburgs were all good, in fact unusually so, taken on the aggregate of shows, though at previous meetings at Oswestry, Hamburgs were failures. No *Polands* were exhibited. Black-breasted

Red Game Bantams secured all the Bantam prizes. In *Geese, Turkeys, and Ducks*, the show was excellent.

The "cottagers' prizes" were a complete failure, only a fourth prize being given, the first, second, and third being withheld. It appears, that at present, little is known by the district cottagers as to exhibition poultry. Brown Red Game cocks exhibited with Black Red hens, Hamburgs single-combed, and Golden-pencilled Hamburgs without any approach to marking, being among their short-comings; though the careful inspection of the Exhibition generally by cottagers, will, no doubt, enlighten such inquirers for future years, if then competing.

The attendance was very good indeed; in fact, the influx of visitors filled all the inns of Oswestry to repletion.

**GAME** (Black-breasted and other Reds).—First and Second, G. Owen, Plas Issa, Oswestry. Highly Commended, T. Burgess, Burleydam, Whitechurch. Commended, A. Shone, Sodyllt; W. Gamon, Thornton-le-Moor, Chester.

**GAME** (Any other variety).—First and Second, G. Owen, Plas Issa. Commended, W. Gamon, Thornton-le-Moor.

**DORKING**.—First, F. W. Zarhorst, Donnybrook, Dublin. Second, O. E. Cresswell, Hanworth Rectory, Hounslow. Highly Commended, Miss Davies, Wrexham Road, Chester. Commended, Lady F. Lloyd, Felton Grange; E. Shaw, Plas Wilnot.

**COCHIN-CHINA** (Brown or Partridge).—First and Second, E. Tudman, Ashgrove, Whitechurch. Highly Commended, R. J. Wood, Brynscall Hall, Chorley.

**COCHIN-CHINA** (Any other variety).—First, H. Tomlinson, Birmingham. Second, F. W. Zarhorst, Dublin.

**SPANISH**.—First, Miss Davies, Wrexham Road, Chester. Second, G. Lamb, Compton, Wolverhampton. Highly Commended, Miss Davies, Chester; W. Nicklin, Atherton Street, Walsall; G. Lamb, Wolverhampton. Commended, E. Shaw, Plas Wilnot.

**HAMBURG** (Silver or Gold-pencilled).—First, J. Robinson, Vale House, Garstang. Second, A. K. Wood, Burneside, Kendal. Highly Commended, T. J. Saltmarsh, Chelmsford, Essex; J. Platt, Dean Street, Bolton, Lancashire.

**HAMBURG** (Silver or Gold-spangled).—First, T. Blakeman, Upper Green, Tattenhall. Second, J. Robinson, Vale House, Garstang. Highly Commended, T. May, Bloomsbury, Wolverhampton. Commended, A. K. Wood, Burneside, Kendal.

**BANTAM**.—First, G. Raynor, Kelyeden Hatch, Brentwood. Second, T. Davies, Stowhill, Newport, Monmouthshire (Black-breasted Game Bantams). Highly Commended, G. Raynor, Kelyeden Hatch, Brentwood (Red Pikes, Game Bantams); A. Briggs, Slack Beck Farm, Rawden, near Leeds; E. Shaw, Plas Wilnot, Oswestry (Gold-laced Bantams). Commended, G. Smith, Belvoir place, Stavely, near Chesterfield (Silver-laced Bantams).

**TURKEYS**.—First, Miss Davies, Wrexham road, near Chester. Second, E. Shaw, Plas Wilnot, Oswestry.

**GESE**.—First, Mrs. Scamons, Hartwell, Aylesbury. Second, E. Shaw, Plas Wilnot, Oswestry. Commended, Mrs. Scamons, Hartwell, Aylesbury.

**DUCKS** (Rouen).—First, J. Holmes, Knowsley, Prescott. Second, W. Lumley, Heaton Mersey, Manchester. Highly Commended, T. Burgess, Burleydam, Whitechurch; W. Gamon, Thornton-le-Moor, Chester.

**DUCKS** (Aylesbury).—First and Second, Mrs. Scamons, Hartwell, Aylesbury. Highly Commended and Commended, E. Shaw, Plas Wilnot, Oswestry.

**EXTRA**.—Highly Commended, Miss Gill, Trewerne.

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, officiated as Arbitrator.

## CALNE POULTRY SHOW.

This was held on Wednesday and Thursday, the 4th and 5th inst., when the following prizes were awarded:—

**DORKING, SPANISH, COCHIN-CHINA, or GAME**.—Prize, A. Heath, Calne (Spanish). Highly Commended, H. Waller, Beversbrook, Calne (Black-breasted Red Game). Commended, W. Beaven, Lickhill Farm, (Black-breasted Red Game).

**DUCKS** (Rouen or Aylesbury).—Prize, W. Bleadon, White Hart, (Aylesbury). Highly Commended, H. Waller (Rouen); H. Woodward, Rookery (Rouen). (The prizes in the above classes were given by Mr. & Mrs. Paynder, of Hartham Park, and competed for by persons residing in the Calne Union).

**SPANISH**.—*Chickens*.—First and Second, A. Heath, Calne.

**BRABMA POOTRA** (Dark).—Prize, J. Hinton, Hinton, near Bath. *Chickens*.—First, Rev. W. H. Fell, Stalmine, near Fleetwood, Lancashire. Second, J. K. Fowler, Prebendal Farm, Aylesbury. Highly Commended, J. Hinton.

**BRABMA POOTRA** (Light).—First and Second, J. Pares, Childown Hall, Chertsey. *Chickens*.—First, H. Lacy, Lacy House, Hebdon Bridge, Yorkshire. Second, E. Sheerman, Chelmsford.

**HAMBURG** (Any variety).—First, J. Orledge, Chippenham. Second, and Third, J. W. W. Hutterb, Causeway, Chippenham (Golden and Silver-pencilled Hamburgs).

**BANTAMS** (Game).—First, E. Cambridge, St. Phillip's, Bristol (Black-breasted Red). Second, W. F. Entwistle, Otley, Yorkshire (Black-breasted Red). Highly Commended, Rev. G. Raynor, Kelyeden Hatch, Rectory, near Brentwood, Essex.

**BANTAMS** (Any other variety).—First, E. Cambridge (Black). Second, T. Davies, Belmont Cottage, Stow Hill, Newport, Monmouthshire (Silver-laced). Highly Commended, G. Manning, Chapel House, Springfield, Essex (Golden-laced Sebright).

**ANY OTHER VARIETY**.—First, J. J. Fox, Devizes (Malays). Second, J. Pares.

**DORKING CHICKENS**.—First, G. C. Merton, Bishopstow, Warmminster. Second, Rev. A. K. Cornwall, Bencombe, Dursley (Grey).

**COCHIN-CHINA CHICKENS**.—First, Miss J. Milward, Newton St. Loe, Bristol. Second, J. Gardiner, Bristol (White Cochins). Highly Commended, J. K. Fowler (Partridge).

**GAME CHICKENS** (Any variety).—First, A. Elling, Sutton Parva, near

Warmminster (Black-breasted Red). Second, G. M. Hulbert, Perret's Brook, Cirencester (Black-breasted Red).

**CHICKENS** (Any variety).—First, J. Hinton (Malays). Second, J. K. Fowler (Crève Coars). Third, W. Miller, Sherbourne, Dorset (Silver-spangled). Highly Commended, G. Manning (Black-breasted Red Bantams); Mrs. J. Pares, Childown Hall, Chertsey (Japanese Silkies). Commended, J. Hinton (Silver Poland).

**TURKEYS**.—First, Miss J. Milward, Newton St. Loe, near Bristol (Cambridge). Second, E. Manndrell, Quemerford, Calne.

**GESE**.—First, J. K. Fowler. Second, H. Woodward, Rookery. Highly Commended, H. Waller, Beversbrook; H. Brown, Blacklands Park.

**DUCKS** (Aylesbury).—First and Second, J. K. Fowler, Aylesbury.

**DUCKS** (Rouen).—First, J. K. Fowler. Second, G. M. Hulbert, Perret's Brook, Cirencester.

**DUCKS** (Any other variety).—First, Miss J. Milward (East Indian). Second, H. Adney, Bebbleton, Collumpton, Devon (Wild Ducks).

**SWEETSTAKES** (Spanish).—Prize, A. Heath, Calne.

**BRABMA POOTRA**.—Prize, H. Lacy, Yorkshire (Light).

**GAME**.—Prize, H. Adney, Bebbleton, Collumpton, Devon.

**ANY OTHER VARIETY**.—Prize, Rev. A. K. Cornwall, Bencombe, Dursley (Black-breasted Red Game Bantam).

## PIGEONS.

**CARRIERS** (Black).—*Cock*.—First, F. Else, Bayswater. Second, H. Wade, Laurel Cottage, Birmingham. Highly Commended, W. Massey, Fulford, York.

**CARRIERS** (Black).—*Hen*.—First and Second, F. Else, Bayswater. Highly Commended, E. M. Roys, Greenhill, Rochdale.

**CARRIERS** (Dun).—*Cock*.—First, H. Yardley, Market Hall, Birmingham. Second, F. Else, Bayswater. Highly Commended, F. Else.

**CARRIERS** (Dun).—*Hen*.—First and Second, F. Else, Bayswater.

**CARRIERS** (Any other colour).—*Cock*.—First, J. C. Ord, Pinlco. Second, W. Massey, Fulford, York (Blue).

**CARRIERS** (Any other colour).—*Hen*.—First, W. Massey (Silver). Second, J. C. Ord. Highly Commended, J. C. Ord.

**POWTERS** (Black, Blue, or Yellow Pied).—*Cock*.—First, J. Thackray, York (Blue). Second, A. Heath, Calne (Black). Commended, E. E. M. Roys, Greenhill, Rochdale; A. Heath (Yellow).

**POWTERS** (Black, Blue, or Yellow Pied).—*Hen*.—First and Second, A. Heath (Yellow and Blue). Highly Commended, A. Heath (Black).

**POWTERS** (Any other colour).—*Cock*.—First, J. J. Fox, Devizes (White). Second, E. E. M. Roys. Highly Commended, A. Heath (White). Commended, H. Yardley, Market Hall Birmingham; F. Else (White).

**POWTERS** (Any other colour).—*Hen*.—First, H. Yardley. Second, E. E. M. Roys. Highly Commended, A. Heath (White).

**TRUMPERS** (Almond).—First, F. Else, Bayswater. Second, J. Percival, Clent Villa, Harborne, Manchester. Highly Commended, H. Bunce, Walworth.

**TRUMPERS** (Any other variety).—First, F. Else. Second and Third, H. Yardley.

**TURBITS AND OWLS** (Any colour).—First, H. Yardley (Owls). Second, J. Percival (Owls). Commended, H. Yardley (Turbits); J. Thackray, York (Owls); F. Else (Owls); C. Bulpin, Riverside, Bridgewater; E. E. M. Roys, Jacobsins and TRUMPETERS (Any colour).—First, J. Percival (Jacobsins). Second, F. Else (Trumpeters).

**BARBS AND NUNS** (Any colour).—First, J. Thackray (Barbs). Second, F. Else (Nuns).

**FANTAILS** (Any Colour).—First, F. Else. Second J. Thackray.

**ANY OTHER VARIETY**.—First and Second, H. Yardley (Spots and Brunsicks). Third, J. Percival (Swallows). Highly Commended, A. Heath (Isabels). Commended, J. Percival (Dragons); J. Thackray (Swallows); E. E. M. Roys (Swallows).

**JUDGES**.—Mr. Sainsbury and Mr. Tegetmeier.

## ABERGAVENNY AGRICULTURAL SOCIETY'S POULTRY SHOW.—OCTOBER 6th.

We are informed that the birds were more numerous and better than in previous years. The Judge was T. Davies, Esq., Newport, and the following were his awards:—

**SPANISH**.—First, W. Lewis, Coldbrook. Second, R. H. Nicholas, Newport.

**DORKING** (coloured).—First, R. Rees, Coldbrook. Second, J. Skinner, Newport.

**COCHIN-CHINA** (Any variety).—First and Second, R. H. Nicholas.

**HAMBURG** (Golden or Silver-spangled).—First, J. Skinner, Newport. Second, R. H. Nicholas.

**HAMBURG** (Golden or Silver-pencilled).—First, R. H. Nicholas. Second, Hon J. F. C. Butler. Commended, J. Williams, Goltre; J. Skinner; Hon J. F. C. Butler.

**POLANDS**.—First and Second, J. Skinner.

**GAME**.—First, G. Pritchard, White House, Lanvihangel. Second, R. Rees, Coldbrook.

**ANY OTHER VARIETY**.—First and Second, R. H. Nicholas.

**BANTAMS**.—First, W. Lewis, Coldbrook. Second, G. Aldridge, Monmouth.

**TURKEYS**.—First, Mrs. G. Holford, Buckland. Second, J. Williams. Goytre Farm.

**GESE**.—First and Second, R. Rees, Coldbrook.

**DUCKS** (Aylesbury).—First, J. Skinner, Newport. Second, J. Pye, Spitty Farm.

**DUCKS** (Rouen).—First, J. Williams. Second, J. Skinner.

**EXTRA**.—Prize, R. H. Nicholas (Black East Indians). Prize, W. Lewis (Cottager's Dorkings). Prize, W. Lewis (Cottager's Prizes).

## LONG SUTTON POULTRY SHOW.

In the schedule of entries for this Show, there is a notice that the catalogue will be ready on the 1st of October. When I made my entries I also sent the price of the catalogue, with a



note requesting that it might be forwarded to me as soon as published. I have not received it, nor has any notice been taken of my application. The publication of a catalogue ten days before a show is an unusual course, and is open to many objections, even if circulated alike to all. Where the circulation is only partial this plan is obviously unfair. Under any circumstances it is likely to create dissatisfaction, and to make exhibitors watch narrowly the awards in the prize list.—AN EXHIBITOR.

### DECLINE AND FALL OF A QUEENLESS HIVE.

EARLY this year there issued out of a common straw hive of mine a very heavy swarm, and the hive itself became naturally very much weakened, and I was not surprised to see at first a great alteration in the numbers and activity of the workers.

As the summer advanced I expected that the fruitfulness of the young queen would supply the deficiency in the number of her subjects, but I was unable to observe any difference in this respect; and as the bees came out and returned in the ordinary way I did not suspect that which I have only lately ascertained, that there was no queen. The drones came out in very great force, much exceeding in number the male bees in some adjoining colonies, and this circumstance tended in some degree to impart an appearance of activity to the hive, and to hide the paucity in number of their more industrious companions.

In due time the workers killed off all the drones, so that by the beginning of the month of September not a drone was left alive; and this circumstance, although it rendered the fact more apparent of how weak a stock it was, merely induced the belief on my part that some extra care might be required to preserve the colony through the winter.

After all the drones had disappeared the bees kept more constantly at home than before, and never failed to present themselves in force whenever a robber bee appeared; and although they were frequently seen in mortal combat with the robbers, they never failed to hold their own, although numbers of them must have died in the encounter. As similar combats were daily taking place outside a Ligurian hive close by, I thought nothing of the attacks upon the weak hive, except, of course, to regret that, few in number as they were, the bees should still further diminish from a cause I was utterly unable to prevent; for although I narrowed the entrance to the smallest possible aperture I could not prevent them coming out on the landing-board, which the bees persisted in doing, and I feared the weakening process of shutting up the entrance altogether.

On the 25th ult., about 4 P.M., a more determined attack by far than had been ever previously seen was made upon my hive, and the robbers in many instances succeeded in effecting an entrance; this went on until sunset put an end to the strife, which proved but the prelude to a scene that an experienced apiarian, who witnessed it, pronounced of an unprecedented character. The next morning, before the heavy dew of autumn had disappeared, robber bees in greater numbers still again attacked my unfortunate hive, and were opposed with a resoluteness and tenacity that could scarcely be imagined, and this continued unceasingly the whole day through, until the ground for a long distance round was literally strewn with the dead bodies of the combatants—a result that can be easily imagined when it is remembered that the fighting lasted about ten hours.

When the evening once more set in it was agreed by all who saw the battle that the attacked had held their own—an opinion confirmed by the great preponderance apparent between the number of the dead robbers over that of their opponents.

I next proceeded to repair the disorder arising from the disturbance in question, sweeping away from outside the hive great quantities of small pieces of wax that had been forced outside by the spoilers within, and I also resolved to change the floor-board, judging from the appearance of things, that much litter of a similar kind must have accumulated inside.

On lifting the hive for this purpose I was surprised at the diminution in weight, having had occasion to lift it not long before, and this induced me to turn the hive upside down, when I discovered that not a single bee remained within it, so that the inmates had literally fought to the last.

I examined the comb, which completely filled the hive, and found no trace of mildew, or of an insect of any kind, and although the robbers had torn open many of the cells there still

remained some 4 lbs. of honey a good deal intermixed with bee-bread, and here and there a pupa sealed over, and very little advanced, but there were no signs whatever of a queen, or of a royal habitation, and I can only presume that her majesty must have met with some accident which prevented her returning from her first matrimonial excursion.

I have detailed the circumstances of my queenless hive, because they seem somewhat at variance with what one reads of the consternation of bees that have lost their queen, as most certainly nothing of the kind was ever witnessed in the present instance, all that we ever noticed being that fewer bees came out and returned during any given time than in the case of the other hives, nor did the bees raise a queen in the manner peculiar to them, when deprived of their lawful monarch.—C. H. HOPKINSON.

[You have given a graphic and very truthful description of the dwindling and ultimate violent extinction of the inhabitants of a queenless colony. The stock may possibly have failed to raise a queen, or the juvenile sovereign may have met with some accident during her wedding flights, may have mistaken her hive on her return from one of them, or may have been murdered by her own workers. Mr. Woodbury considers that more young queens perish through regicidal attacks, than in any other manner.]

### DEPRIVING BEES OF THEIR HONEY.

I HAVE been asked by cottagers if I knew of any way to take the honey from their bee-hives without using sulphur, which is generally used, and they complain that the honeycomb is turned black by it. Can you tell me any other means of taking the contents of the hives?—A. H. D.

[The best mode of appropriating the contents of common hives is by driving, and uniting their inhabitants to those stocks that are intended to stand the winter. Full instructions for performing this operation are given in "Bee-keeping for the Many," and were quoted by us in page 288; whilst articles on driving and uniting bees, from the pen of Mr. Woodbury, appeared in Nos. 139 and 144 of this Journal.]

### THE HONEY HARVEST IN SCOTLAND.

WE copy the following from the *Scottish Farmer*:—

Since the labours of the bees for the year 1865 may now be said to be at a close, it may not be amiss to note the kind of season they have had, and the results.

It is well known to most bee-keepers that the winter of 1864 and spring of 1865 were very unpropitious. The long periods in which the bees were unable to get out during the winter, from the cold and snow, were very injurious to many, and a number died in consequence; others were attacked with dysentery, which, if they did not succumb to, were much injured thereby, so that in the early spring most hives were weak; but as the spring advanced the fine weather enabled the bees to get out, and they began to breed fast, which enabled many to get early swarms. What with the amount of turnip seed grown in this quarter, and also the extraordinarily fine crop of white clover in the fields, they increased in strength and weight very fast, and a number of tops of fine flower honey were obtained by many who never got them before, and were sent to market as soon as possible, until the merchants were fully stocked. When the price fell, all were anticipating an abundant harvest of heather honey; but how woefully we have all been disappointed.

For my own part, out of seventeen hives which I have at the heather, I shall not have any; but I have had a good share of flower honey. I began the season with nine hives, and from them have now twenty-three, and have taken from them 290 lbs. of flower honey. I had three tops of as fine honey as ever was seen, weighing respectively 40, 36, and 32 lbs. nett. The 40 lbs. was gathered by a top swarm within five weeks, the others about the same time. They are the heaviest which have ever been seen in this locality. I attribute my success to the liberal feeding which I gave the bees early in spring when the queen was breeding. By so doing, I had strong hives, which were ready to take advantage of the white clover; and as my bees are now all Ligurians, or hybrids between them and the black ones, I cannot help giving them the preference, as I never could obtain such results before with the common bee.

Those hives which are meant to be kept for next year will require to be weighed, and if found less than 30 lbs.—that is, the common straw-hive and board—then they must be fed at once. They would be better at 35 lbs.; still I find it a good plan to feed in the autumn, as it sets the queen breeding in about six days, and, consequently, a fine lot of young bees are in the hive all the winter, ready to commence operations with vigour in the spring. All the bees which have been working this summer will be dead before spring; it is only bees which are hatched in September and October which remain during the winter. At times a few old superannuated bees may be found in the spring, but if they do not move off by their own accord, they are soon expelled by their younger brethren. The bees have no idea of a poor-law; when they are unable to work they are expelled without remorse from their home.

In removing tops at this season, especially when the weather is cold, it will be found that the bees are in a dormant state, and do not leave the combs. In that case it is a good plan, after removing the top and turning it upside down, to place an empty one of the same size on the top of it, wrapping a cloth round where they join, and carrying them into a warm room. The heat will soon cause the bees to revive; and after filling themselves with honey, which they always do as seen as disturbed, by striking gently the lower top, the one with the honey and bees in it, they run up into the empty hive, and it can be carried out and put on the hive to which the bees belong, when they will at once join their comrades; the empty top should then be taken away, and the hole in the top closed carefully up for the winter.

In taking off tops at this season great care should be had that no honey is spilt or left about the hives; all should be taken away at once, as the bees in the other hives soon smell it, and they then begin to rob their neighbours, if they are allowed, and severe fights occur on these occasions.

If it is observed that they have begun to rob one, by the great commotion of the bees at the entrance, the door of the attacked hive should be shut, and the hive moved away into a cool room or cellar for the day, and taken back to its place at night; or it may be kept for a day in the cellar if the weather is warm, and put out the following night. If once bees begin to rob a hive in an apiary they do not generally rest satisfied with that one, but will begin on others if the weather allow them; so that they should be watched after they come from the beehive: and when feeding them, it should be done at night, by placing the food in troughs within the hive, and removing the empty ones in the morning.

#### TREATMENT OF A DRONE-PRODUCING HIVE.

In your Journal of March 7th of the present year you inserted a communication from me asking advice in the case of a hive producing drones in large numbers in the early part of February. Your advice was to destroy the queen, to appropriate the honey, and to unite the bees to the nearest stock.

Being unwilling to destroy a stock apparently one of the strongest in my apiary, I allowed matters to remain *in statu quo*, carefully watching proceedings. About the end of March the drones gradually disappeared, and the working bees as gradually increased in numbers until, on the 25th of May, it threw off a fine swarm, which I placed in a Stewarton hive; but feeling little confidence in the leader of this swarm, two days afterwards I added to it another, placing underneath a third box. On the 3rd of June, eight days after the hiving of the first swarm, I placed a fourth box, as super, on the united stocks, and which was taken off on the 22nd of June with a nett weight of 18 lbs. of the finest honeycomb I ever saw. The remaining three boxes are well filled, and the population numerous. After the issuing of the swarm I placed a super upon the old stock, which super has been well filled to the weight of 12 lbs., and the stock with its new queen continues in a most flourishing condition. This is a simple statement of facts, on which I make no comment. Perhaps you or some of your learned apianian correspondents may be able to solve the mystery.—G. RAYNOR, *Kelvedon Hatch Rectory, Brentwood*.

[Our advice would be correct under the circumstances in probably ninety-nine cases out of a hundred. Yours just happened to be the hundredth case, and, therefore, we were wrong. The key to the mystery lies in the fact, which, however, is but little known, and has indeed been very seldom ob-

served, that young impregnated queens will in certain rare instances commence by laying either a batch of drone eggs, or those of drones and workers intermingled in a most singular manner. This phenomenon appears to arise from some little stiffness or want of power in the delicate and as yet unused voluntary muscles of the spermatheca. After the lapse of some time these seem generally to become capable of fulfilling their functions, and worker eggs are deposited in the usual way. A case in point was related by Mr. Woodbury in page 350 of the first volume of our New Series.]

#### AUTUMNAL UNIONS—MOVING HIVES.

I OWE you my thanks for your prompt and valuable reply to my inquiry as to autumnal unions, which appeared in your Journal of August 8th. I lost not a day in putting to the test of experience the advice you gave on the subject, and on the same evening I united two stocks, taking the contents of one hive for myself, and the result was entirely satisfactory. In the morning all was, as stated in the "Bee-keeping for the Many," peace and harmony. I fancy the use of a little peppermint water with the syrup, as recommended by you, is of great use in causing the combined stocks to unite without fighting.

I have since operated successfully on several other stocks, and am quite satisfied that this mode of uniting stocks is deserving of general adoption. I have always chosen the dusk of the evening, as soon as the bees are all quietly settled, for the operation; but I have not found that it could be effected quite so rapidly as some of your contributors appear to have done. A quarter of an hour's steady drumming I find none too much to drive all up; and it saves a great deal of trouble afterwards to leave as few as possible to be got rid of separately. I have found, also, that it is better to use something pretty heavy to beat with (though, of course, not with too much force), rather than a light stick or the hands, how smartly soever you may rap. A croquet mallet answers admirably, the shock goes more completely through the body of the hive, and sends the bees up much more effectually than anything lighter.

On the subject of moving stocks short distances, I find it advisable in the first place to commence by turning the hive with the entrance in the opposite direction to that in which it is desired to remove it, and when the bees have become accustomed to it, then day by day withdraw the hive a foot or so at a time towards its intended resting place—making it, to use a Hibernicisms, advance backwards. The bees more rapidly follow their home for a short distance in the line of their flight to it, than they turn either to right or left in quest of it.—G. S. C.

#### QUEENS AND QUEEN CELLS BY WHOLESALE.

I AM tempted to relate an occurrence of to-day, thinking it may interest your bee-keeping readers. On the 4th inst., we removed an Italian queen from a full colony and shipped her to a customer, giving the stock a young fertile queen on the 7th inst. Being very much hurried we neglected to make a final examination, but supposed the young queen was accepted. This morning the colony threw a large swarm. On opening the hive the peculiar "piping" of an imprisoned queen was plainly heard, and an investigation resulted in the capture of ten beautiful young Italians, all of whom had their full colour and were able to fly; but after cutting the cap of their cells had been resealed by the bees, and fed through an opening in the lid, as so correctly described by Huber. The colony having started queen cells as soon as their queen was removed, had refused the young queen given them on the 7th, and an enumeration of the cells showed that they had finished twenty-five, one of which contained an immature drone swimming in "royal jelly." (This attempting to convert drone eggs into queens is by the way, a common occurrence). Several had been opened and their inmates murdered; others had hatched, and two we cut out and placed in a box, leaving one in the hive. Our next onslaught was on the swarm which had clustered on a small tree. We hived it, getting five more young queens which had accompanied it, and on returning to the queen cells which we had cut out, found one hatched and the other just hatching, thus securing seventeen young queens and a queen cell for the old hive! I think this a pretty good haul from "a buckwheat



swarm." Although I know of no buckwheat nearer than a mile and a half from our apiary, we are having swarms from our Italians almost daily, and they are rolling in the honey famously.

The amateurs who have examined the Italian bees closely, have noticed in every hive many workers, whose yellow bands were of the most brilliant hue, while their abdomens were of a jet black—rivalling Day and Martin's blacking. We have had numerous inquiries in regard to this, some thinking that these fellows were the *pure* bees, and that the presence of others was a mark of impurity in the queen producing them. This is what may be called *a posteriori* reasoning. The fact is that there are old bees whose bodies have been worn smooth by hard labour, and any one doubting has only to catch a worker, and with a wet finger rub its back gently for a few moments to polish him up to the African type.—JAMES T. LANGSTROTH, in *American Country Gentleman*.

### GAS TAR INJURIOUS TO BEES.

A correspondent in your Journal the other day states that gas tar is not injurious to bees; but there can be no doubt that it is. He states that he merely covers his bee-house with gas tar, and this makes all the difference, for the vapour from it flies off above the bees. The vapour was under them in the former case. As you had some accounts in your Journal of freeing supers from the bees, I send you an extract from a lady's letter, describing a very ingenious plan, that may be of use:—"If you have not used the little talc traps for freeing your supers or boxes of bees, I think they would save you much trouble. I made one the other day, and every bee passed through it from my large supers, and as not a bee can return, no watering is needed. I merely take a slip of perforated zinc or cardboard, cut four square pieces out about a quarter of an inch wide, and suspend, either with thread, or by sticking the upper edge on a small piece of ribbon, and fixing to the zinc or cardboard over each hole a small piece of talc. This is so light that if you tack it on the entrance the bees run through, and it falls and prevents their return. I found it most useful."—A. W.

### BEE INVASION AT OBAN.

THE proprietor of a fruiterer's shop at Oban thus writes to the "*Glasgow Morning Journal*:"—"Since the notice of the invasion of my shop by bees the annoyance has continued, though I have smoked the premises every day. Yesterday, the young woman who keeps the shop had to shut up and take herself off, as the bees were unusually cross, and prone to use their stings. Indeed, I was myself afraid during the afternoon to enter the passage leading to the back shop, and the public outside had difficulty in moving along, owing to the swarms of bees which, round the door and windows, were literally in clouds. In spite of the free use of brimstone they tried to force themselves through the keyhole and shutter-bolt holes. After I had done with the smoking process the shop was opened, but in two hours the enemy had full possession of the premises. I closed and smoked again, which finished the work for that day. This morning at half-past seven I opened as usual, but before nine o'clock I had to run with all the skeps, mugs, and plates of honey out of the shop into a back store, and to plug up every hole through which air could penetrate. While so engaged I was attacked by the bees, who stung me through my cap and veil. To-day I again smoked the shop, which, since the removal of the honey, has not been so much run upon."

[The only wonder is that such occurrences are not more common in shops where honey is exposed for sale. The invasion might readily have been checked at the outset by removing everything likely to attract the bees to a safe place, and then throwing open doors and windows to permit them free egress. When satisfied that no booty was to be obtained they would speedily have taken their departure, and, beyond a few stragglers during the next two or three days, probably nothing more would have been seen of them.]

### SANITARY PRECAUTIONS.

At a meeting of the Sanitary Committee of Dublin, held recently, it was decided to circulate the following suggestions

for improving the sanitary condition of dwellings, drawn up by Professor Cameron, public analyst.

The reported appearance of cholera in Southampton should incite the inhabitants of Dublin to increased attention to the sanitary condition of their dwellings. All the efforts of the sanitary department of the Corporation cannot keep the public health in a satisfactory state if, as is too often the case, the most simple and obvious principles of hygiene are violated by private individuals. The operations of the Corporation can only be extended to the interior of the dwellings of a certain portion of the poorer classes of the community; but they have frequently published suggestions for the improvement of the public health, which all ranks of society might with great advantage to themselves act upon. As the present time should be one of preparation against epidemic disease, attention to the following points ought to be given by those whose houses are to a great extent exempted from Corporation inspection.

Fresh air should be abundantly introduced into every part of the house. The windows should not be closed during the day; where air stagnates disease seldom fails to appear. Bed curtains should not be used. Direct sunlight is a potent agent in the preservation of health. Cholera, fever, and other endemic diseases make greater ravages in houses situated on the shady side of the street than in those where the sun's rays penetrate. It is far better to allow our carpets and curtains to fade than to exclude from our rooms the health-giving beams of the sun. Effete matters of every kind should be as speedily as possible removed from the house. Ashpits and other receptacles for offal and rubbish should be frequently cleaned out. Water-closets are often the source of disease, produced from noxious gaseous matters which force their way up through the pipes. To guard against this source of danger a saucerful of chloride of lime (bleaching powder) might with great advantage be placed in the water-closet. It would cost only a few pence, and would be a most efficient disinfectant for at least a month, after which it could be renewed. No untrapped sewer should be permitted to exist; and large oblong stone sinks, especially when untrapped, should be looked upon as sources of malignant effluvia. Every wall that admits of it should be frequently whitewashed; and at present it would be most desirable to add a quarter pound of chloride of lime to every bucket of whitewash. In the case of stables this addition would be productive of great benefit to the health of the animals kept in them. At all times, even the careful dusting and rubbing of furniture is a matter of sanitary importance, as minute purulent organic particles, by which disease is often generated, adhere to the surface of even tables and chairs. And here it may not be out of place to remark that personal cleanliness, embracing complete ablution of the body, is the first principle of hygiene.

[Whitewashing poultry-houses with chloride of lime is much to be commended also.]

### OUR LETTER BOX.

ILLUSTRATED POULTRY BOOK (*B. G. H.*)—It is printing, and will be published about the end of this month.

ADDRESS (*T. N. S.*)—Mr. Brierley's address is Rhodes House, Middleton near Manchester.

TEA MAKING.—A correspondent (*J. Noon*) says—Put the boiling water into the teapot and the tea in over the water. The tea being put in on the water causes the leaf to expand before sinking to the bottom of the teapot.

GESE AT WORCESTER POULTRY SHOW.—Our reporter made a mistake in assigning the first prize to Mr. Fowler; it was awarded, we are informed, to Mrs. E. S. Wolferstan, Shalford Hall, Tamworth.

QUILLBOUND (*Q. B.*)—The cure for a quillbound fowl is to oil the affected parts thoroughly, and then to break the skin where a slight protrusion points out the locality of the stub, by passing a needle through and breaking it upwards.

CHICKEN MORTALITY (*S. G. A.*)—You cannot do better than administer castor oil to your fowls, now drooping their wings, breast puffed, and wasting away, following it with stimulants, such as bread and ale. It is a dangerous taste to introduce, but there is nothing so beneficial to wasting fowls as raw yolks of eggs. Put camphor in all the water used in your runs.

SUNFLOWER SEED (*Evelyn*).—We have heard sunflower seed much praised as poultry food, but have never tried it. Perhaps bruising the seed might induce the fowls to eat it, as you say that they now refuse to touch it.

BUYERS OF CHRYSALISES (*A Subscriber*).—We know of no one who purchases these for resale.

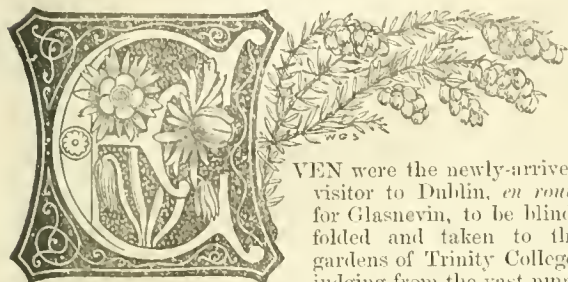
ANATOMY OF THE BEE (*M. D.*)—You will find what you require in the volume on bees of the "Naturalist's Library" written by the late Dr. Dunbar. The spermatheca either of the virgin or impregnated queen is, however, always fully distended, the only difference being in the character of its contents.

## WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 17—23, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.	
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.				Days.
17	TU	Martins last seen.	58.4	41.0	49.7	16	23	af 6	1	af 6	7	4	7	4	28	14	37	290
18	W	St. LUKE.	58.4	41.3	49.7	18	31	6	59	4	10	5	39	4	29	14	49	291
19	TU	Limes leafless.	59.7	40.2	49.9	19	33	6	57	4	12	6	54	1	31	15	59	292
20	F	Beech leaves fall.	59.2	40.2	49.7	16	35	6	55	4	15	7	21	5	1	15	9	293
21	S	Sun's declination 10° 49' S.	58.4	39.8	49.1	16	36	6	53	4	15	8	52	5	2	15	19	294
22	SUN	19 SUNDAY AFTER TRINITY.	59.0	42.9	50.4	21	38	6	51	4	15	9	27	6	3	15	28	295
23	M	Wild Duck arrives.	55.5	49.1	47.8	20	40	6	49	4	12	10	8	7	4	15	36	296

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 58.3°, and its night temperature 40.8°. The greatest heat was 73°, on the 21st, 1831; and the lowest cold, 17°, on the 23rd, 1859. The greatest fall of rain was 0.96 inch.

THE DUBLIN BOTANIC GARDENS.—No. 2.  
TRINITY COLLEGE.



VEN were the newly-arrived visitor to Dublin, *en route* for Glasnevin, to be blind-folded and taken to the gardens of Trinity College, judging from the vast num-

ber and the rarity of the plants there collected he might reasonably suppose himself upon the banks of the Tolka. The Trinity College garden is Glasnevin over again, but uttered in another language, the plants, despite the excellence of the Glasnevin collection, being to a very considerable degree another set entirely. Many hundreds of species of course are to be found in either garden, but each at the same time has its specialities. This may be accounted for, perhaps, in the case of Trinity College, by the requirement that a living specimen of every natural order of plants, in blossom if possible, shall be ready for the students at any and every season of the year—a requirement sufficient, in truth, to try the skill and patience of even such a curator as Mr. Bain. When Napoleon was upon a campaign, it is said that he required his cook to have a hot roast chicken for ever in readiness, so that at any and every hour of the day and night, and in whatever circumstances he might be placed, still his favourite dish should be ready for serving up. Something like this, but to satisfy an intellectual instead of a physical appetite, seems to be the care of the Superintendent of the Trinity College garden, and it is but simple justice to say that he acts, as nearly as can be, to the demand. The quantity of plants here crowded together is incredible. There seems scarcely room to squeeze in another, having proper care to leave access to the sun and air. Old things and new stand side by side, almost as closely as pictures in a first-class gallery, and every now and then a poor relation gets, as might be expected, jostled out, and is compelled to take up its lodging on the footpath. The oddest instance of this was a plant of Samphire, *Critinum maritimum*, old, tough, and woolly, among the gravel, yet covered with flowers and fruit! So extraordinary a change of location is seldom found possible with a maritime plant. From sea-washed rocks, wetted by the spray of every tide, to an arid path, is about as remote an extreme as could be thought of.

Much of the charm of Trinity College garden is no doubt referable to the bland conditions under which the plants exist, just as at Glasnevin, at Beaumaris, in South Devon, &c. A delicious climate, though no doubt with its drawbacks, enables many plants to thrive in a way seldom seen in the corresponding latitude in England. Here, for instance, against the boundary-wall are *Berberis fascicularis* 12 feet high, with a stem 3 inches thick, and superb

masses of foliage that roll out like Ivy; *Bignonia radicans* in full flower; and also in blossom *Paliurus Spina-Christi*, the plant used, in all likelihood, for the crown of thorns. It is intensely absurd to depict the crown, as painters often do, as if made of the *Crategus crus-galli*, representing it with some ten or twelve spines as long as the finger. In the *Paliurus* we have slim and flexible branchlets admirably adapted for twisting into a chaplet, and at the axil of every leaf is a little brown spine, resembling the lower half of the finest and sharpest needle, a spine pointing every way, so that the punctures would be at once acute, and incessant, and certain upon every side. The flowers are small, pale but decided yellow, in form like little stars, and are produced in leafy racemes at the ends of branchlets that are mostly without spines. The whole of the upper portion of the plant, from 10 to 12 feet above the ground, was, at the end of September, gay with them in abundance.

The lawn, like the wall, is occupied by shrubs and trees of the highest interest. Nearly the first one seen is *Arbutus andrachne*, superb in foliage, and with plenty of young berries, the cinnamon-coloured bark peeling off the trunk edgeways, and giving the latter a very odd appearance. Above a mass of magnificent compound leaves, each large enough to cover a moderate-sized dinner-table, we see, not far off, the grand creamy inflorescence of the *Aralia japonica*; on the other side is *Garrya elliptica*, 12 feet high, and giving ample sign in its grey catkins of the flowery triumph it will have in readiness for New Year's-day. The great pendulous racemes of the *Garrya* form one of the handsomest possible ornaments for an *épergne* in the depth of winter, and gardeners who have to supply such ornaments would do well to look after its culture. Of course it is only the male plant that should be grown for this purpose. The female, though in its native country decorated with purple berries, is of no use in England except as a source of seed.

Interspersed among the trees are some grand suffrutescent plants, such as *Bupleurum fruticosum*, which here makes a circular bush 5 feet high in the middle, and bearing, probably, five hundred yellow umbels! A speciality worth remark is *Lobadium aromaticum*, a shrub related to the *Sumachs*, and, as would be expected, possessed of a powerfully acrid juice. If a branch or twig be gathered incautiously, and there be any little scratch or wound upon the hand by which the sap can enter the skin, a very disagreeable and painful sore is soon occasioned. Near it, and of very pretty aspect, is that great rarity *Atraphaxis spinosa* loaded with white flowers, and looking, at the first glance, like a *Leptospermum* or the *Babingtonia*. Accustomed as we are in England to regard the *Polygonaceae* as weedy herbaceous plants, it is once again very delightful to see how Nature can diversify her simplest types. A hard, dry, almost wiry shrub, with innumerable little branchlets striking out nearly at right angles, and loaded with delicate little white flowers, is not exactly what we should anticipate from studying a Dock or a Knot-Grass. Here, however, we may study it—an unmistakable "variorum reading," as classical scholars express it, of the idea played forth in those rude and worthless ancient



Britons. The order Polygonaceæ is one of those that present the widest possible contrasts, and hence is most valuable to the student. A shrub like the *Atraphaxis* is not so remote as not to be readily associated with the English weeds; it is when we look at those odd *Coccolobas* in the greenhouse that faith is for a moment shaken, yet only to be made the stronger by proper scrutiny. On the one hand, for example, is *Coccoloba platyclada*, made up, apparently, of innumerable bits of narrow green ribbon, sewn end to end, and bearing no distant resemblance to many a green seaweed; on the other is *Coccoloba pubescens*, a noble, single-stemmed, and erect tree, clothed all the way up with great leathery leaves more than a yard across, and terminating in an erect raceme 2 feet long or more, of innumerable flowers of the richest scarlet! Think of that, ye whose notion of the Polygonaceæ has been formed from the Sorrel of the meadows, or of the Black Bindweed of the corn-fields. The fruit of this plant, like that of some other tropical representatives of the order, as *Triplaris* and *Podopteris*, is berry-like, and produced in bunches, whence in their native countries the plants are known as "seaside Grapes." For quickening the habit of observation, and teaching how to discern distinctions and resemblances, where without it all would be confused, and more than half overlooked, there is no science like botany. It is the best of eye-salves and the most successful of opticians; in a word, no learned treatise upon logic or the "laws of the mind" ever taught a man better how to use his wits than does the practical working-out of a proposition in regard to plant-structure. To take half-a-dozen species of as many different genera of a natural order, carefully dissect their flowers and other parts, and then satisfy the mind as to the nature of their resemblances and distinctions, is every bit as useful as learning how to demonstrate a theorem in Euclid. A man who will accustom himself to such examinations, not jumping at conclusions, but considering as he goes on, and not looking to books until he has exhausted all his own resources, not only becomes a good botanist, and therefore a better gardener, but he acquires sharpness and accuracy in other things, and proves in his own experience that for mental discipline nothing yet surpasses living nature.

In-doors the typical character of the garden is quite as well sustained as in the open air. Superb Orchids, though not many, expand their odorous flowers by the side of leafy Spice trees; and lovely Bromeliads and Scitamineous plants stand alongside of the Upas tree. This, though an unpretending, is, from the associations that fable and poetry have connected with it, one of the most interesting plants in British collections. The leaves are ovate, about 3 inches long, pointed, and hairy, and exude so venomous a juice from the end of the petiole when gathered, that if incautiously placed in the hat for safe conveyance home, should the skin of the head be touched by the juice, the roots of the hair are destroyed, and a bald place is left! It is scarcely necessary to say to any intelligent reader of books now-a-days, much less to a botanist or to a gardener, that the qualities assigned to the Upas tree are in a considerable degree not possessed by it. Though the sap and products are deadly, the tree gives out no exhalation of a poisonous character, nor does it blight or affect anything in its vicinity. Death, when occasioned in the neighbourhood of the Upas, came not of the tree, but of certain effluvia that arose from the ground, probably carbonic acid gas. The two things have no more connection as to cause and effect than the Goodwin Sands and Tenterden Steeple. Such tales do capitally, however, to horrify an audience fonder of platform harangues than of facts; and the Upas tree will no doubt remain for ever a stock image with soul-harrowing declaimers. Speaking of it brings to recollection a deliciously comic bit I once heard at a meeting held for a serious purpose, where one of the speakers, not quite up in his botanical geography, dragged in once again the story of the bulb found in the hand of the Egyptian mummy; and finished the recital by telling his audience that the said bulb, on being placed in the earth, "kissed by the solar beams, suckled by the dews of heaven," &c., eventually "bloomed and blossomed into a beauteous *Bahia*!!!"

But let us return to Mr. Bain and his rich garden. Never certainly was the Killarney Fern, *Trichomanes speciosum*, grown so magnificently as it is here. There are two or three varieties in as many different boxes, with sloping lids of glass that can be lifted up at pleasure. Nothing can exceed the transparent delicacy of the fronds, or the richness given by their abundant fructification. Many appear to be upwards of 15 inches long, with the base broad in proportion. In one of the houses I noticed another plant of the Fern alliance, the *Adder's-tongue*,

*Ophioglossum vulgatum*. It was not that the plant was a rarity—it is one of the "common things" of Cheshire—but it was the place, and more particularly the special companionship, for who would expect to see the little green tongues of this pretty plant shooting up under the shade of an Indian *Dracena*, and deriving their nourishment from the same pot of soil! Such, however, was the case, reminding us of the accounts given by travellers of the vegetation upon some parts of the Himalayas, and other sub-tropical mountain ranges, where at certain elevations the flowers of Europe and of the equinoctial zone come nearly in contact. The fronds were in full fructification, showing along both margins of the spike that curious row of apertures by which the spores make their escape. One of his *Dracenas* being too large and tall for convenient accommodation, Mr. Bain, a few years ago, in the style of old *Procrustes*, but with more amiable intent than the famous Attic robber, tried the experiment of shortening it by a partial cutting through of the stem, waiting awhile till roots were protruded from the under surface, and then completing the work of the saw. The top thus severed made a capital and healthy plant, which is now one of the ornaments of the greenhouse. A similar experiment is being tried with a *Palm*, *Sabal Blackburniana*. It has been in progress for nearly six years, and seems likely to prove successful. Should it do so, the experiment will certainly be a triumph for Mr. Bain, since, so far as we are aware, although roots are readily produced by the cut stems of such plants as *Dracenas* and *Fouquierias*, and by those of the genus *Ficus*, it is rather contrary to the nature of *Palms*. One of the prettiest plants in the greenhouse here is *Chamaebatia foliolosa*. It does not often occur in collections, but is well worth growing for the extreme delicacy of its foliage. The leaves are about 3 inches long, and something like *Cheilanthes tomentosa*, combined, if it were possible, with those of *Tansy*. The flowers, which though not here, I have seen elsewhere, resemble those of the common Blackberry, and soon fall to pieces; in habit the plant is an undershrub.

The general collection comprises examples of every great class and section of plants, and includes abundance of Ferns and of succulents. No one who has access to it need sigh for Kew or any other garden, for like *Glasnevin*, it is botanical nature brought to a focus. In conclusion should be mentioned two or three things belonging to the prodigious mass of herbaceous and suffrutescent plants in the open borders. *Ephedra monostachya* is a quaint little grey bush, looking as if it had existed since the time of the Bauhins, and with its tough old stem crusted with Lichens. *Lobelia tupa* forms a superb mass, the score of spikes of flowers, of the richest crimson, rising 6 feet high. *Androsace lanuginosa*, instead of a lean and tender pot plant as I have been accustomed to see it in Lancashire, forms a great patch upon the flower-border, glossy in its beautiful silver-grey, and with plenty of umbels of fairy lilac flowers that seem the *Primula farinosa* of the Westmoreland mountains repeated half-size—a most lovely plant for a rocky in genial localities. *Phytolacca decandra*, though coarse and ungainly in habit and foliage, is worth growing for the very curious and noble spikes of fruit that follow its insignificant green flowers. The fruit-spikes are 12 or 15 inches in length, and seem as if formed of ripe Blackberries. Let no one who visits Dublin for the sake of seeing *Glasnevin* fail to reserve a day for the gardens of Trinity College.—LEO.

## FORM OF FRUIT-HOUSES.

THE thanks of the amateur gardening public are justly due to "G. H." for so kindly coming forward to explain the system of growing fruits in houses, which he considers most profitable; for though "Vitis" may fancy that he "has taken to gardening blindfold," yet, probably, few of your readers have known much, if anything, about the houses "G. H." has taken the trouble to describe, until he endeavoured to open their eyes. Probably there are some, myself among the number, who would be glad of any further information which can be given on the subject—as, for instance, the expense of building such a house; the system of ventilation used; whether the fruit trees trained from back to front, and consequently facing east and west, the house being south, do as well as if they were with their fronts towards the south; whether the sun would not strike more powerfully on the back wall if it were higher, and the roof a lean-to, instead of a span as shown in the drawing? How many bunches of Grapes would the Vines 10 feet high carry? Eleven or twelve only appear in the drawing; and on a fourteen-

feet rather I grow twenty with ease, taking off twenty more as too much for the Vine. Whether there is any means of forcing, or whether such can be easily applied; whether the roots of the trees are entirely inside the house, and if so, whether the space would be enough after a time for the growth of the Vines and trees; and what kind of border is used? I have heard, though I never saw it, that there was a house of this kind in Kew Gardens, but that it did not answer. I might also ask where one of these houses may be seen?—LIVE AND LEARN.

## CYCLAMENS AND THEIR CULTURE.

(Continued from page 290.)

CYCLAMENS are easily cultivated, thriving well in soil that is free of stagnant water, and which contains a quantity of vegetable fibre. Soil from turves, 2 inches thick, cut from places where the ground is naturally dry and of a light yet good loamy nature, laid up for twelve months in an open situation, and turned over twice, may constitute one half of the compost, and the other half may be sandy peat, such as is used for Heaths, not the mossy, spongy, brown peat used for Ferns and Orchids, and well reduced leaf mould in equal parts, adding one-sixth of silver sand, or in its absence clean river sand, the whole being well mixed and chopped pretty fine with a spade, but not sifted. This will grow all the Cyclamens well; but whether from usage or fancy, I invariably grow *C. eoum* and *C. europæum* in equal parts of turfy loam, peat, and leaf mould, adding sand if the soil appear deficient in it.

The most suitable time for potting Cyclamens is when they are on the point of commencing growth. The dates of this work I find noted down as follows, taking 1859 as being about midway between the extreme earliest and latest dates for the past ten years:—*C. repandum*, February 6th; *C. europæum*, July 26th; *C. neapolitanum*, August 23rd; *C. vernum*, August 28th; *C. Atkinsi*, September 4th; *C. eoum*, September 12th; *C. ibericum*, September 1st; *C. persicum*, September 15th; and *C. macrophyllum*, *africanum*, *robustum*, *latifolium*, or whatever else they may be called, at the same time as *C. persicum*. These dates refer to the time when it was considered most suitable to pot, and any one acting up to them will not err, though they are earlier by a fortnight than they were in the following year. I think, however, that it is better to pot early than not until the foliage or visible growth is made, for then there is danger of pulling away lumps of soil full of fibres, and this exerts an injurious effect, as the succeeding bloom will show.

The soil being in good order for potting—that is, neither wet nor dry, or when it may be handled nicely without forming a soapy mass when squeezed, the pots to be used should be clean washed both inside and outside. Let the pots of plants be taken up and the plants turned out of them. Removing the crocks, take away the loose soil carefully, and so as to remove all that is not occupied with roots. Select a pot three times the diameter of the bulb—this the eye will determine without actual measurement—crock it to one-third its depth, and put in an inch or so of the rougher parts of the compost. At one time I used to place only one crock over the hole, and then half-inch bones on it to one-third of the depth of the pot, mixing also a quart of bones with every six quarts of compost, and the same of charcoal. This, I thought, improved the foliage, the size of the flowers, and their fragrance; but whether such was the case or not I cannot positively assert, but I mention the practice that others may try it. Having prepared the pot in either of the ways named, fill it with compost so far that when the bulb or corm is placed thereon its crown may be level with the rim of the pot, and precisely in the centre. The bulb being properly placed, fill round it with soil and press gently down at the sides of the pot, so as to fix it tolerably firm, but not very tightly in the soil, and leave a space of about half an inch for watering. Water lightly, and stand the pot in coal ashes in a cold frame with the lights facing the north, for though we want light the scorching rays of the sun are not required just now. If the pots be plunged three parts down in coal ashes, and their rims be from 6 to 9 inches from the glass, they could not be better placed.

From the 1st of June to the 1st of October, the lights are only to be put on when heavy rains occur, and then air must be given by tilting back and front. Coddling plants under glass for any length of time will not answer, and Cyclamens are the last to be treated in that way. They will not require much water, but it should be given copiously and seldom,

rather than in dribbles and often, and this so as to keep the soil healthfully moist for the roots to run in; for if the soil is dry growth ceases, and if it is saturated with moisture the flowers are poor and few, as they dump off at the surface. From October 1st to June 1st the lights may be kept over the plants when the air is frosty, wet, and foggy; but when it is dry and mild, and the external temperature above 40°, they should be drawn down; yet cold cutting winds must be guarded against by leaving the lights on, tilting them at the opposite point from which the wind blows. When the air is cold, but not frosty, a little air will be of service; but when frost prevails the frame should be shut close, and protection of some kind, as mats, straw, or litter, placed over the glass to keep out frost, the sides of the frame being lanked up with ashes, or what is better, dry litter. When the weather becomes mild remove the covering, but do not expose the plants to light until quite sure that they are completely thawed; it will, however, be better if they are not frozen. During the winter the frame should face the south.

"But I have a greenhouse," some one says, "and I can do without all the bother of covering up, &c." That is all very good; but many have not the means to run up a greenhouse, and yet are fond of flowers in winter. Cyclamens, however, can be bloomed in a sunny window, the plants being grown in a cold frame as described, and when they commence flowering it is easy to remove any plant to the sitting-room, where they will bloom finely for weeks, care being taken to keep the soil moist, and the plants in the lightest situation. Those who have greenhouses will find it an easy matter to remove the plants as they come into bloom from the frame to the shelves, or any other light airy position in such structures. One great advantage of growing these plants in pots is their portability, and another of some importance is that one-half of the plants can be taken into the greenhouse a fortnight before the others, and this gives an earlier bloom and a longer continuance of it. The plants should not be removed from the frame to the greenhouse until the flower-buds show themselves. In the greenhouse they ought to be placed as near the glass and points at which air is admitted as possible, so as to have the advantage of both light and air. Water is to be given copiously when the soil shows that it is required, and slightly sprinkling the leaves with water at the same temperature as the house will be of benefit in freeing them of dust; but it must be done only on bright mornings, air being given immediately afterwards, or the leaves and flower-buds will damp off. A free circulation of air, all the light practicable, with a temperature of from 40° to 45° from fire heat, are the essentials of Cyclamen culture in heated structures; close, warm, dark situations are their destruction.

When the plants show signs of the foliage decaying water should be gradually withheld, discontinuing it altogether in about a fortnight; the pots may then be plunged to the rim in an open but not sunny part of the garden. It is, however, a much better plan to plunge them to the rim in coal ashes in a cold frame, where they can be protected from heavy rains, but at other times enjoy gentle showers and pure air. Keeping the roots dry for a period of three months or more is injurious, and brings on that sickly condition which is never prolific of bloom.

*Cyclamen persicum* is decidedly a half-hardy plant, but is best grown in a frame in autumn, until November, when the plants may be removed to a greenhouse, and kept there until the foliage decays. They may then be placed outside, for the extreme drying process is very pernicious to their well-doing.

Although it may be desirable to grow a number of specimen plants in pots for the decoration of greenhouses, conservatories, drawing-rooms, &c., on account of their being so handy, yet in this way they are not half so effective as when grown in masses. They are, indeed, magnificent when grown in pans, from 1 foot to 1 foot 6 inches in diameter, and 6 inches deep. These should be drained perfectly, and filled with soil to within an inch or so of the rim, rounding it slightly in the centre, but not more than an inch or two. Place the strongest bulbs in the centre at double their diameters apart, and preserve the same distance from the sides of the pan. Put soil round the bulbs so as to cover them about half their depth, and then bring to a level with the crown with cocoa refuse, and let it be old or nearly reduced to mould. In default of this its place may be supplied with some of the compost passed through a half-inch riddle. Grown in this way the smaller kinds, as *C. Atkinsi*, *vernum*, *ibericum*, and *eoum*, so very interesting when in pots, form truly splendid masses; such usually produce from



three hundred to five hundred blooms in a season; and I have the authority of an enthusiastic cultivator for a pan of *C. Atkinsi*, 18 inches across, giving 987 blooms during the first three months of the year 1856. Growing *Cyclamens* in pans is the next best plan to growing them in frames; but in the latter they are not so handy for decorative purposes. We may grow them in pots singly, in pans by the dozen, and what is to hinder our having them in frames by the square yard, so that handfuls of flowers may be gathered every morning all through the winter? Nothing, if only there be the convenience and requisite number of bulbs at command. Some twenty years ago, when gardeners knew how to grow such plants as these in addition to minding bedding stuff, and knew how to keep up a succession of bloom in their gardens all the year round, I remember seeing them grown in frames in the same way as Neapolitan Violets. Since then I have grown them planted out in frames, and I do not hesitate to state that they never do so well as when grown in frames or low pits; then why not have them not only in pots and pans for decorative purposes, but also in frames for gathering from for bouquets?

Suppose we have a two-light frame of red and white neapolitanum, another of ibericum and vernum, another of coum and Atkinsi, and one more of persicum, with a hot-water pipe along the front just to keep out frost, and to enable us to gather them earlier or later as desired, we may have red and white neapolitanum in September and October, or even in November; ibericum and vernum will keep up a succession until January and February, by which time coum and Atkinsi will come in, closely followed by persicum, and thus we have *Cyclamen* blooms from the 1st of October (and a month earlier if desired, by adding a one or two-light frame of europæum, which is sure to be a favourite on account of its fragrance), up to the last week in April. The mode of proceeding which I would recommend would be to choose a sunny, sheltered, and naturally dry situation, to lay without mortar just two courses of bricks, on which the wooden-frame is to rest, and along the front put a four-inch hot-water pipe within the frame, and then two courses of bricks. Fill the bottom of the frame or pit level with the top of these two courses with rubble, and then lay two more courses of bricks on these to keep the compost from the pipes. On the rubble place a few inches of the very rough compost, and then sufficient compost to raise the bed 9 inches deep all over, sloping it from the back to the front, and if the frame is of a proper depth the surface will be exactly 9 inches from the glass. If there are no frames it would be better to do without them, and build the walls of brick, making that in front 1 foot high, and the back wall 2 feet in height, with wall plates on them, and the usual woodwork of pits. Beneath the bed a four-inch hot-water pipe might be placed, with the rubble over it, not that *Cyclamens* need bottom heat, but to be ready for Melons, or other plants requiring it. All that would be necessary in this case would be a two-inch return-pipe, with stop-cocks to turn the water into the pipe beneath the bed or not as required.

Such pits may be planted with Cucumbers or Melons in March, and these will have yielded a sufficient return by the beginning of September; at all events, No. 1 frame or pit must be prepared and planted with *Cyclamen europæum* by the last week in July, planting them 6 inches apart every way, and in quincunx order, with the crown just level with the surface. After planting give a gentle watering, and in a day or two mulch the surface with half an inch of cocoa refuse, or the sifted compost. Water will not be much needed in August, but it must be given when required. The lights should remain off day and night, except when heavy rains occur, when they must be drawn on, admitting air, however.

No. 2 pit should be made ready and planted with *Cyclamen neapolitanum*, red and white, by the third week in August; No. 3, with *C. vernum* and ibericum, in the last week in that month, or in the beginning of September; No. 4, with *C. coum* and Atkinsi, in the second week in September; and a week later, No. 5, with *C. persicum*. All should be planted at the same distance apart, except in the case of large bulbs, which must be allowed more space, and the reverse as regards those which are below the ordinary size. If the soil is moderately moist it will not be necessary to give more than a gentle watering to settle the earth about the plants, and if it is dry bring it into a moist state by gentle rains or gentle waterings, drenching showers and soaking waterings being injurious to *Cyclamens*. Afterwards give gentle waterings in the absence of showers, and a gentle sprinkling overhead on dewless nights, but little of this will be needed after the middle of September.

As to air, they cannot have too much, provided frost and cold rains be excluded, and even then a little air will be of service, for a little heat in the hot-water pipe will prevent injury from frost, and allow of air being given during damp weather; the flowers, too, may then be gathered at all times, which is not the case when they are grown in cold frames. The heat being the same in all the frames may be considered an objection. Such, however, is not the case, for the temperature may be kept down by giving more air to plants which have done blooming, and the foliage will be matured all the better if not frozen. It should be borne in mind that the hot-water pipe is not intended to stew the plants, but merely to obviate the necessity of covering up with mats, &c., in order to keep out frost, to dry up damp, and to allow of the flowers being gathered at all desirable times without hindrance. It should also be remembered, that when any kind ceases growing it should be kept drier than when vegetation is active, and should have more air, though *Cyclamens* can scarcely have too much of this. All of them, however, will not require to be ripened off at one time; *C. europæum* will be the first to ripen, as it dies down in winter; *C. neapolitanum* will follow in March; *C. vernum* and ibericum in April; *C. coum* and Atkinsi in May; and *C. persicum* in the beginning of June. If the pits be wanted for Melons, the different kinds may be taken up when ripe, and planted in an open situation, yet shaded from the midday sun, and in this position they may remain until the time arrives for replanting them in the pits. On the other hand, if the pits are not required for other purposes, the plants may remain in them, protected from heavy rains.

Grown in the above way the *Cyclamens* would do much better in the second year than in the first, and better still in the third; at least, that is my experience. It may then be necessary to take them up, renew the soil, and replant. They produce seed so freely in this way, that if allowed to sow itself, the frame will soon be a complete mass of plants. The largest number I ever had from a plant in a single year was one hundred. This would be the best plan of raising plants in quantity to bloom at three years old.—G. ARNEY.

(To be continued.)

## CUTTING THE RUNNERS OFF STRAWBERRY PLANTS INTENDED FOR FORCING.

AM I right or am I wrong in cutting the runners off my Strawberry plants, which I intend forcing? I visited a friend recently, and his gardener had not cut off one of the runners, and did not intend doing so until he put them into the forcing-house. He also told me that my gardener had quite spoilt my plants by cutting the runners off so closely, as it greatly injures the plants. —

[This is one of those cases which show how careful a gardener should be in giving his opinion, and more especially in pronouncing on the practice of others. Many seemingly divergent plans, if carefully carried out, will come to the same result in the end, just as you may often go by various roads to one place, and with no great difference as to time and labour. It would be a very different affair if, instead of keeping right on by one road, you made it a practice to go a bit upon one, cross from that to another, and having proceeded a little way to cross back again, and so proceed until you had patronised a portion of every way that led to the place. Something equally unsatisfactory will be apt to take place in gardening if you attempt to combine into one the different parts of discordant systems. In the present case we do not see why, if it be desirable that Strawberry plants in pots should have all the runners encouraged until they are put in for forcing, they should not also be allowed to remain on them. We can well understand how the encouragement of a few runners at first will add to the strength and luxuriance of a plant, though we can also understand how by their increase these runners will act ultimately as exhausters rather than as feeders. But again, though luxuriance and strength are desirable, these must not be obtained at the expense of the maturity of the buds. It is also of importance that the matured strength of the plants should be concentrated in the crown of the plant. This can only be done by giving the crowns all the light and air possible, and for this purpose the plants should be set far enough apart, so that the crowns may have every help to mature themselves, and have fruitful juices stored up in them. We adopt your gardener's practice, and cut off all the runners as they appear,

at least after September. Our practice, therefore, is decidedly different from that of your adviser. The sooner all such excrement growth is now removed the better. We are not so particular when the runners first appear immediately after potting, but even then little is gained by allowing them to grow; but, we think, allowing them to do so for a little time tends to fill the pot sooner with roots, and as soon as that is effected the chief matter to be thought about is concentrating the ripened strength in the buds or crown.]

### HAMILTON PALACE.

(*Concluded from page 295.*)

THE old kitchen garden at this place not being large enough to supply the requirements of such a family as occupied Hamilton Palace some years ago, the Duke wisely considered it more prudent to make a new one entirely than enlarge the old garden, especially as it was subject to both late and early frosts, from being surrounded by high ground. It was, besides, so hemmed in as not to afford space for the many glass structures that were wanted. The new garden is on an extensive scale, the space enclosed within the walls being 5½ acres, independent of the slips surrounding the walls. The site is somewhat elevated, with an inclination to the south-east; the east and south walls are straight, the west wall has a graceful curve outwards almost approaching a semicircle, while the north wall is occupied with hothouses of various kinds; the whole, it need hardly be said, are new, and constructed in the best possible manner. The north wall occupying higher ground than the rest of the garden, the fine range of lean-to vineries against it is raised 5 or 6 feet above the level of the next tier of glass structures, which run parallel with, and in front of them. The houses in the second range are mostly span-roofed, and are devoted to other purposes. The range against the north wall consists of six vineries, and two Peach-houses, one at each end, the whole length being about 400 feet. The two centre vineries are each 50 feet long by 18 feet wide, the next two vineries on each side are about the same length, and 15 feet wide, and the Peach-houses at the ends are 12 feet wide. Four of the vineries have borders heated by hot water on the most approved plan, with complete drainage, and all the requisites to success that liberality and skill could insure. The two central vineries are respectively planted with Black Hamburg and Lady Downe's; the former had just ripened an excellent crop of very fine fruit, and the whole were in the most robust health, and promised to produce excellent fruit for many years. As many of the Vines had been only recently planted, and had not, of course, arrived at the age for a full crop, it would have been imprudent to have allowed them to have borne too much, but what were in fruit were all that could be wished. Mr. Mitchell prefers making his borders by degrees, and although an ample space had been allowed for that purpose, the portion actually in use was comparatively small; the rest will, doubtless, be added when wanted, but the vigorous character of the Vines was the best proof that they had all that was needful for their well-doing. The workmanship of the houses, and their convenient fittings, were of a most substantial character, betokening the well-directed disposal of ample means. The vineries with heated borders had underneath them a hollow chamber and hot-water pipes; and good materials, and the best possible workmanship were visible in every part, showing that what in the building trade is called "scamping," had in no instance been resorted to. The ventilators opened by well-contrived crank machinery.

Between the two central vineries of this range a door and entrance-porch afford access to the garden. A good broad space for the Vine-border runs in front of the houses, and then a walk, and then another range of houses, whose bases are 4 or 5 feet lower than the upper tier, the inclination of the ground allowing this. The north entrance walk between the two central vineries, after proceeding beyond the borders and walks, leads down a flight of steps between the second series of glass structures, which, being span-roofed and on a lower level, do not in the least shade the Vine-borders—an important consideration; and on looking from the centre of the garden or elsewhere, it will be found that they do not conceal the other range. These fine span-roofed houses were mostly intended for Pines, and a great portion of them are now used for that purpose, and very excellent fruit are grown; some of them, however, are for the time being converted into plant-houses, and some well-grown specimens at the Edinburgh International Show proved how well

the treatment they had received suited them. Amongst other plants was a dense specimen of *Croton picta*, upwards of 7 feet high, trained to a perfect cone, the diameter at bottom being about 5 feet. It was justly regarded by most people as one of the finest plants ever exhibited; some very fine *Vincas*, trained in a similar manner, accompanied it, and Mr. Mitchell seemed very justly to prefer that mode of training to any other for all plants that could be brought into the shape. Orchids were also grown in one or more of these houses, while the end ones were devoted to Peaches. The mode of culture was different from that adopted in the other range. A longitudinal partition in one of the houses was intended to make under the same roof a moderately early house, and a very late or rather retarded one; the crop in the latter having only the north light of the span, and the borrowed light of the central partition, must necessarily be much later than that enjoying all the warmth of a summer sun; but as the experiment had not been fully tested, I can only state that there was every appearance of a successful result.

I believe this fine range of hothouses was built by Mr. Gray, of Danvers Street, Chelsea, and the lower range is heated by one of the tubular boilers supplied by the same celebrated builder. Mr. Mitchell informed me that it heated 5000 feet of four-inch pipe in a very satisfactory manner. I omitted to ask what was the length of pipe in the upper range and how it was heated; but I believe it was effected by a boiler of the same kind. Some other glass structures had been begun, but the death of the late noble proprietor in the prime of life, and while various works were in progress, and the uncertainty hanging over a minority, had put a stop to these and some other works that were in contemplation. Enough, however, has been done to give an idea of the princely style in which the whole was intended to have been completed; neither has the useful been neglected to display the ornamental, for all is good. If proof were wanting, one peep into the apartments of the young men will convince any one how well everything has been cared for; and I expect some young gardeners will sigh over their lot when they learn that their brethren at Hamilton Palace have each a separate sleeping apartment, and that there are a dining-room, kitchen, scullery, and bath-room. Comforts like these would have made gardeners of the last generation stare, and though much has doubtless been done to amend the far-from-creditable places in which many young men are lodged, I must say that this is the farthest advance I have yet met with, and only hope to hear of the example being speedily copied in other places.

The kitchen garden, with the forcing-houses alluded to, lying to the west, or rather south-west, of the mansion, and on elevated ground, the intended approach was to have been on the east side, where large doors occupy a central position in the east wall. From this entrance the ground falls gently towards the old garden, and a series of terraces were proposed to be cut in the bank, with corresponding slopes and broad flights of steps. The latter have in a great measure been put down, but much of the terrace work remains incomplete. I believe some plant-houses were also projected, but have been delayed; but for the reason already stated they may possibly be proceeded with. The old garden occupies the dell at the bottom of the hill, and has, doubtless, done good service in its day, and is still doing so; its sheltered situation, though exposing it to late spring frosts, is favourable to such crops as escape that ordeal. The walls, however, were of limited extent. It was fully occupied with various crops, all of which were well represented, nothing was forgotten, and some of those which are only allowed a small space in ordinary gardens were grown on a scale that showed the importance of the place. It is never likely to lag behind in all that pertains to the improved gardening of the age while its affairs are presided over by such a gardener as Mr. Mitchell, who, in addition to sound practical abilities, possesses the equally important qualities of urbanity, and kindness of heart, and who is, I believe, at all times ready to impart information to any one to whom it may be useful.—J. ROBSON.

**HOLLOW WILLOWS AND THEIR TENANTS.**—In a field beside the river at Hereford there are a number of old pollard Willows with the queerest habits. In one an Elder has planted itself, and while the bole is Willow, the branches are all Elder, and a tap root from the Elder passes down the hollow stump, and draws its nourishment from the earth. Another pollard bears a Rose, another a Thorn, in a similar manner; but the strangest.



phenomenon of all is, that some of these Willows, still crowned by a verdant capital of branches, have their hollow boles filled by tap roots sent down by these branches themselves, and by the splitting of the rotten stump this inner system of pipes and roots comes to light.—MARGARET PLUES.

### ACHYRANTHES VERSCHAFFELTI—COLEUS VERSCHAFFETI—STELLA GERANIUM.

VARIOUS opinions have been given during the past few months respecting the qualifications of *Achyranthes Verschaffelti* (commonly called *Iresine Herbstii*) as a bedding plant, and after hearing so much of this "new red leaf plant," I was anxious to give it a trial. A few plants were purchased, and after being placed in heat for a short time soon produced a good crop of cuttings, sufficient to make plants for one bed in the first week in June. The plants had been tolerably well hardened off, but did not make much progress for several weeks. Being in London on the 1st of July, my employer gave me a ticket for the Rose Show at the Royal Horticultural Gardens, at which place I saw a large bed of this new plant, and to tell the truth, I was somewhat disappointed after hearing so much of it. The *Amaranthus* in the same garden was, in my opinion, much superior, both in habit and colour. On my return home I was anxious to see how the *Achyranthes* was getting on, and found that it had made but little progress. Still I thought we might as well be out of the world as be out of the fashion, and the plants were allowed to remain, thinking that after a little experience they might do better. We have not been disappointed, the plants have been regularly pinched in, and have made quite a thick bed, and likewise become more of a red colour, which is what was wanted. We have secured a good crop of cuttings, and shall place some in stove, greenhouse, and cold pit. A stove or warm greenhouse will, I expect, be the best place for them.

The *Coleus Verschaffelti* disappointed many as a bedding plant, and I believe there are but few who use it extensively at the present time. The best beds of it that I ever saw were at Slrubland Park, last year, under the management of Mr. Blair, and "taking a leaf out of his book," we planted a bed very thickly; this has done well all the season, and is one of the best beds in these gardens.

Mr. Fish has lately said that *Geranium Stella* is "A1" with him. We call it our A1, for it is undoubtedly one of the best *Geraniums*, if not the very best, that ever was introduced. The only drawback it has, is that its flower-stalks are rather too long. We have been fortunate in raising a variegated *Stella*, and if it should bloom as well as its parent, it will be "a *Stella* indeed." —JOHN PERKINS, *Thornham Gardens, Suffolk*.

### PEAR BLOSSOM IN OCTOBER.

THE long-continued summer is now at an end, and here in Lancashire, at least, the rain which has for many weeks past been so trying a necessity, is falling in abundance. The bedded-out plants, as a matter of course, are rapidly losing their brightness, and even the cheerful Michaelmas Daisies, which in the south you call by the pretty name of "Farewell Summer," have been so drenched and battered that it is questionable if they will recover the condition they were in on Saturday. The bloom is by this morning (October 11th), entirely beaten away; but it may be worth while to place upon record, that on October 7th, 1865, two Jargonelle Pear trees standing in a garden at Coleyhurst, not more than a quarter of an hour's quick walk from the Manchester post-office, were perfectly white with bloom, just as in April. To see a few flowers, or even a branch or two at the close of a fine season like the one we have just enjoyed, is, perhaps, not very unusual; but for a whole tree to be covered with bloom, is, I think, quite exceptional. The first exclamation on seeing it was naturally, "No Pears next year;" but on examining several twigs, it appeared that only a portion of the flowering-buds had thus prematurely expanded, and that plenty remained to give promise, at all events, of a crop of fruit in 1866—whether to be fulfilled or not, will be known in twelve months.

The trees are situated in the immediate neighbourhood of some dye works, the warmth of the atmosphere caused by which, and possibly some of the chemical matters cast into the air may probably have had something to do in inducing this remarkable precociousness. Independently of the existence of

unexpanded flower-buds, it is quite likely that the splendid autumn we are now passing out of, will have so ripened the wood of these, and of other trees that may have similarly bloomed elsewhere, as to give them strength and impetus to develop new ones. The organic bases of which leaves and flowers are composed are primarily alike, and it is quite conceivable that on the same principle that plants "run to leaf," when over-saturated with moisture, here there may be a sufficient tendency in the contrary direction, owing to the fine season and its effects, to compensate the loss caused by the production of flowers in October.

I have noticed in many places, Strawberries in full bloom. In one garden, I think near Bristol, the bed was covered with flowers, and the same is the condition of things rather extensively with the wild Strawberry of the hedge-banks. Very pretty was it the other day, during a long walk in the lanes of Derbyshire, to note the white circlets of this little favourite, and how sweet and unaccustomed a contrast they formed with the azure bells of the round-leaved *Campanula*. What an amazing quantity, too, this season of red berries in the hedges! The Hawthorns bend their branches with the load, and the great clusters of the wild Rose hedges stand so erect and proud, and shine so brightly in their vivid vermilion, that in its decline the plant seems to eclipse even its own summer. How glorious, too, this year, the Acorns and the Chestnuts. Surely that beautiful passage in the seventh Eclogue must have been penned after such a season as that of 1865.—LEO.

THERE is now (October 7th) in the garden of Mr. Hall, linen-draper, High Street, Stoke Newington, a Jargonelle Pear tree in full bloom. It ripened its fruit in July, and is now bare of leaves, but the blossoms are as abundant as if it were spring, and apparently as well developed.—A SUBSCRIBER FOR MANY YEARS.

### PREPARING STRAWBERRY PLANTS FOR FORCING.

I HAVE a number of good Strawberry plants which I am preparing for forcing, but have no better forcing-house than a vinery heated by a flue, and which cannot be started very early; I therefore propose making up a slight hotbed about the end of January, but fear the roots would be injured by much bottom heat. I presume I may place boards for the pots to stand on, and remove the plants into the greenhouse vinery just before they come into bloom.—A GARDENER.

[You cannot do better, but decidedly use the boards, and give plenty of air at first. After the first fortnight you might place a few leaves between the pots, to give these a little more heat, but it is safest not to let the pots be more than 2° or 3° higher than the atmosphere in January. Farther on in spring plunging the pots in a mild heat would do no harm. If this is done early, rooting and foliage are more apt to be encouraged than flower-trusses. We generally start our succession crops in frames. Even a cold frame is better than no other assistance.]

### KNIVES OF MOWING MACHINES.

IN reply to your correspondent "VERAX," as to the best method of grinding the knives or cylinders of his mowing machine, I find that a piece of grindstone laid flat below the machine instead of the ledger plate, answers the purpose very well. Care must be taken to turn the crank of the driving wheel so that the cutter revolves in a contrary direction to the way it does when cutting. Also, it is of the greatest importance to have the knives a little higher, or convex in the middle, so that the point of contact with the plate may be easy, without causing a grating noise. When using emery, the emery ought to be shaken well on to each end instead of the middle, as is done in most cases, and which often causes the machine to get quite out of order, as the middle of the cylinder becomes concave, and only the ends touch the ledger plate, causing the machine to make a noise without cutting at all.—GEORGE ROTHNIE.

HAVING noticed a letter signed "VERAX," in your last week's Journal, we take the first opportunity to state, that all the cutters of our machines are properly tested before being sent out, and that we guarantee them to give entire satisfaction; if not, they can be at once returned unconditionally. 2ndly. The

cutters fitted to our machines never require to be taken out to be either ground on a stone or with emery. They are made with steel on each side, and when they become blunt by running one way round, all that is necessary to be done is to reverse the cylinder end for end, which brings the opposite edge of the cutter on to the bottom blade, and the machine will then cut as well as when sent out from the manufactory. This can continually be repeated when necessary, and can be done in a very few minutes by any person using the machine. —THOMAS GREEN & SON, Leeds, London, Liverpool, and Dublin.

## DUBLIN INTERNATIONAL SHOW OF FRUITS AND VEGETABLES.

THE Executive Committee of the Dublin Exhibition having made arrangements to hold an International Show of fruits, gourd, vegetables, cereals, and other agricultural produce, it was opened to the public on Tuesday the 3rd inst., and, as a first effort, was attended with considerable success.

The fruit was displayed on a nearly continuous line of tables, about 4½ feet in breadth, and extending nearly the entire length of the great southern transept; the roots, cereals, and other agricultural produce being displayed under the colonnade in the garden.

With regard to the Show, it could scarcely be called international, inasmuch as in the department we are about to notice there was only one foreign exhibitor, M. Cappenick, of Ghent, and three from England, the principal being Mr. Charles Turner, of the Royal Nurseries, Slough, near Windsor; T. W. Swannell, Esq., of Bedford, and another whose name we did not ascertain. The display, therefore, was almost entirely confined to Irish growers, who came out very creditably indeed, more especially in what may be strictly called the pomological section. Even the Irish exhibitors appeared, we regret to say, to be almost altogether confined to parties resident in the metropolitan county; outside it the credit of Leinster was only maintained by the counties of Wicklow and King's County. The northern and western provinces were entirely unrepresented, as far as we could see, and the southern province by one only, Mr. Unthank, of Limerick, and by him very creditably indeed.

It is to be regretted that the provinces and the sister islands were not more largely represented; but, as previously observed in this journal, we fear the inducements offered were not sufficiently liberal to bring exhibitors from the other side, or even from any considerable distance at home.

Having said so much, we will now proceed to details, following the arrangement of the schedule, beginning with collections, premising that for the prizes offered for collections from horticultural societies, public gardens, and the colonies there was no entry. For collection exhibited by a fruiterer, the only competitor was Mr. Lamb, of Grafton Street. His collection was fine, varied, and extensive. Among its more noticeable features were very excellent Queen Pines and fruit of the Cactus, the latter very large and fine, in this country a rather unfrequent addition to the dessert. He had also specimens of Salway Peach.

Of collections from private growers there were two—one from the gardens of the Duke of Leinster, the other from those of Thos. Hutton, Esq. The former deservedly obtained first honours; Mr. Hutton second. The collection from Carton comprised White Muscat, Black Hamburg, and Lady Downe's Grapes, the latter very fine, Peaches (Chancellor and Galande), Brown Ischia Figs, Pears (Beurré Bosc, Marie Louise, Flemish Beauty, and Louise Bonne of Jersey), Plums (Reine Claude and Coe's Golden Drop), Medlars, Citrons, very fine Quinces, and Princess Alice Melon.

In the class of twelve Dessert Pears there were five entries, the first prize going to M. Cappenick, of Ghent, for a very fine lot, made up of the following sorts:—Colmar d'Arenberg, Benrre Diel, Poiré M. le Curé, Nouvelle Fulvie, Calabasse Bosc, fine, Benrre de Rance, very large and fine, Benrre Clairgeau, a very handsome fruit, and Duchesse d'Angoulême, extremely large and fine; the names of one or two we could not come at. The second prize was awarded to a very excellent collection from the gardens of the Chief Secretary, Phoenix Park. In this fine lot Benrre Bosc was particularly fine, also a very handsome light-coloured Pear, named Pins IX., said to be of great merit. The manner in which the collections from M. Cappenick and Mr. McNeill were named was particularly neat and satisfactory, as was also that from the gardens of the Hon. Major Bury, whose collection was next in merit. In his lot Calabasse Tondard was very pretty; it was much paler, but still it looked very like Bon Chrétien Fondante. He had also Williams's Bon Chrétien, very fine, and Benrre Goubault remarkable for its singularly mottled surface.

In the class of six dishes there were three competitors, the Chief Secretary taking the lead with very fine specimens of Benrre Bosc, Marie Louise, Louise Bonne, Duchesse d'Angoulême, and Gansel's Bergamot.

In the class of three dishes there were six or seven entries, the first honours being deservedly won by Mr. Charles Turner, of the Royal Nurseries, Slough, near Windsor, with admirable specimens of Benrre Diel, Benrre Clairgeau, and his famous British Queen, seen for the first time here on this occasion.

In the class of Dessert Pears, single dish, there were eight competitors, and here all of them and their varieties had again to give place to Mr. Turner and his British Queen. The second prize was won by, we think, Captain Stuvely, of Croydon Park, with a fine dish of Marie Louise.

In Kitchen Pears, single dish of any kind, the first prize was awarded to T. W. Swannell, Esq., of Bedford, for Uvedale's St. Germain, weighing 9½ lbs.; the second prize going to Mr. Unthank, of Limerick, for the same variety, weight 8½ lbs.

In the class of the heaviest five Dessert Pears, Charles Cobbe, Esq., showed a splendid and very handsome variety, Calabasse Grosse, the five fruits weighing just so many pounds. None of the weights mentioned above nearly approached that of the Uvedale's St. Germain Pears we saw exhibited at the Rotunda some years since by Sir G. Hodson.

In the class of Dessert Apples, twelve dishes, there were four entries, the first prize going to the Chief Secretary, M. Cappenick being obliged to content himself with second. The first prize lot was made up of Gravenstein, King of the Pippins, Cox's Orange Pippin, Ribston Pippin, Red Astrachan, Reinette du Canada, Pitmaston Nonpareil, Braddick's Nonpareil, Hughes's Golden Pippin, Margil, and Ross Nonpareil. M. Cappenick's collection was made up of Court-Pendu-Plat, Reinette Blanche, Reinette Grise, Calville Rouge, Calville Blanche d'Hiver, Pomme du Vin, Belle du Bois, and Gravenstein. It would trench too much on our space to go into details of the minor classes of dessert Apples, so we proceed to the classes of baking Apples, merely mentioning that the first prize for the best dish, any variety, was won by Mr. Turner, with Cox's Orange Pippin.

Baking Apples, twelve dishes, two or three competitors; the Chief Secretary was again first, with fine specimens of Echlinalve, Lord Sutfield, Red Streak, Tower of Glammis, Reinette du Canada, Striped Beefing, Carlisle Codlin, Yorkshire Greening, Waltham Abbey Seedling, Winter Collin, and Bedfordshire Foundling. In the class of six dishes the Chief Secretary was in the front again, with six of the varieties mentioned above. In the class of three dishes, Hon. Major Bury was first, with Catshead, Sauvener, and a variety whose name we could not catch.

The prize for the heaviest baking Apples was won by Mr. Barlow, with Alfriston. Baking Apples, best single dish, the first prize in this class was won by Charles Cobbe, Esq., D.L., with Catshead; the second prize going to Mr. Gough, the gardener at the Convent of St. Clare, Harold's Cross, for the same variety.

Messrs. Bridgeford & Son, Lower Sackville Street, and Spaffield Nurseries, Ball's Bridge, exhibited, not for competition, an exceedingly large, well-arranged, and varied collection of Pears and Apples, numbering over 160 sorts, in itself a goodly show, which, no doubt, was regarded, as it deserved to be, with great interest.

Messrs. Edmondson & Co., of 10, Dame Street, also had a most extensive collection, including the singular Bird's Nest and other Gourds, the whole very interesting, and, we may add, very neatly set up.

In the classes of Grapes, the Hon. Major Bury had it nearly all to himself, the only other exhibitors being Mr. Cobbe and Mr. Hutton. The first of these had a dish of Muscat, and the latter a White Grape, not Muscat. The Muscats, both in the class of six bunches and of three, shown by the Hon. Major Bury, it is almost superfluous to say, were very fine indeed, as the fame of his excellent gardener, Mr. Roberts, as a Grape-grower, is now so well known. He took, as a matter of course, first prize in both classes. In the class of Muscats, three bunches, Mr. Cobbe was second, with bunches that were well handled, and did credit to his gardener, Mr. Helman, but they were scarcely ripe. In the classes of Black Hamburg there was no competition, and Major Bury took first prize with very fair bunches, but nothing like those he exhibited on other occasions this year. In the class of Black Grapes, any other variety, he was again first, with very fine bunches, named Muscat Hamburg, but certainly not in shape of berry and other external points, what we know as the Muscat Hamburg. We understand, however, they were from Vines not on their own roots, but grafted on the Black Hamburg. It is interesting if this has such a marked effect in changing the normal character of a variety, and we should like to know if the flavour, as well as the appearance, is more or less affected by it. Of Plums, there were six or seven dishes, the variety exhibited by all, with one exception, being Coe's Golden Drop. Much the finest in appearance came from the Chief Secretary's garden.

In the class for miscellaneous matters, in which fruits elsewhere provided for in the schedule, were not admissible, there were five or six Melons, none of them looking of much merit, except a large and handsome-looking Scarlet-flesh, exhibited by Mr. Turner, called the Hedor Prize. Beyond appearance it did not seem to possess merit as regards flavour. Specimens of Red-fleshed Abyssinian Melons were exhibited in this section by Major Speedy, of the Royal Hibernian School, Phoenix Park, which were highly commended by the Judges. Peaches were shown by Mr. McNeill, of the Chief Secretary's garden; and Mr. C. Turner, of Slough. The former had a very fine dish of Walborton Admirable, and the latter a splendid dish of his famous Salway Peach. This last is a magnificent fruit, and beautiful even to look at, with its rich Apricot tint, of which the flesh, too, partakes; no garden should be without it. The Judges, to mark their approbation in an especial way, accorded it the International Medal. A dish of very superior Morello Cherries, and another of Red Currants, were



also exhibited in this class, we are not sure by whom, as, except in some cases, there were no names attached to the eards. It is most desirable that at exhibitions this should not be the case, as mostly it is only those who may get the first or second prize that are known, and though, perhaps, nearly quite as meritorious, nobody knows who the owners of the other lots are. Wax models of some varieties of Apples and Pears, as grown in the colony, were exhibited by the Superintendent of the Victoria Department of the International Exhibition, showing in many instances what an extraordinary degree of development many of our well-known kinds are capable of when grown in that distant country.

The Gourd show was almost a failure, there being only three specimens of home, and none of foreign growth, exhibited. The heaviest, and to our mind the best, came from Miss Hempenstall, of Sandymount; the next in merit from Glenart Castle gardens. In the way of Ornamental Gourds, the only specimen shown was one by the truly active and energetic Secretary of the International Exhibition, Henry Parkinson, Esq.

In the class for Table Decorations, there were only two entries, neither, we thought, up to the conditions as laid down in the schedule. That, however, exhibited, we believe, by Herbert Manders, Esq., was much the better of the two. He had a handsome centre of plate, with branches and pendant baskets, supported on either side by Higginbotham's crystal stands, and which he has named the Alexandra Flower Vase. The centre stand of the second was also of plate, with glass vases, of March's pattern, on either side. The flowers at the base of both were rather prettily arranged, but above there was an appearance of hurry and want of finish. Messrs. Higginbotham had a great variety of stands, some with flowers and many without, which we thought, though pretty enough for their purpose, gave the table a confused look, and detracted somewhat from the effect of the stands put up for competition.

The Vegetable section did not present any features that would call for special notice, if we except the enormous Cabbages from Sybil Hill, and some other places; these were infinitely superior to what was exhibited in the agricultural section. Parsnips were also a feature; the best came from Hollywoodrath (Thos. Thompson, Esq.). Carrots, too, were excellent, those exhibited by Mr. Thompson being wonderfully fine, as were also the Cardoons exhibited by Mr. James, head gardener to the Duke of Leinster. Capt. Stavelly, of Croydon Park, exhibited a miscellaneous collection of garden vegetables. We must, for the successful competitors, and other particulars regarding this section, therefore, refer to the official prize list, which follows:—

Collections of Fruit (Fruiterers).—Prize, Mr. Lambe, Grafton Street. Collection of Fruit Grown by Exhibitor.—First, Duke of Leinster. Second, T. Hutton, Esq., of Drumcondra. Collection exhibited by any person not a fruiterer, and without restriction as to grower.—First, Duke of Leinster. Second, T. Hutton, Esq.

Grapes, White Muscat, six bunches.—Prize, Hon. A. Bury, of Tullamore. Three bunches.—First, Hon. A. Bury. Second, C. Cobbe, Esq., Newbridge. Any other White kind, three bunches.—Prize, T. Hutton, Esq. Black Hamburgs, six bunches.—Prize, Hon. A. Bury, of Tullamore. Three bunches.—Prize, Hon. A. Bury. Any other Black kind, three bunches.—Prize, Hon. A. Bury, for Muscat Hamburg.

Pears, dessert, twelve dishes, distinct kinds.—First, T. Cappenick, of Ghent, Belgium. Second, the Chief Secretary. Six dishes.—First, Chief Secretary. Second, Lord Justice of Appeal. Three dishes.—First, Mr. C. Turner, Royal Nurseries, Slough. Second, J. Lane, Esq. Single dish, any kind.—First, Mr. C. Turner. Second, Capt. Stavelly, Croydon Park. Kitchen, single dish, any kind.—First, T. W. Swannell, Esq. Second, G. F. Unthank, Esq. Limerick. Heaviest five fruits, dessert.—First, G. F. Unthank, Esq. Second, Lord Justice of Appeal.

Apples, dessert, twelve dishes, distinct kinds.—First, Chief Secretary. Second, T. Cappenick, Ghent. Six dishes.—First, Chief Secretary. Second, Lord Justice of Appeal. Three dishes.—First, Chief Secretary. Second, Earl Fitzwilliam. Single dish, any kind.—First, Mr. C. Turner, Slough. Second, Earl Fitzwilliam. Kitchen, twelve dishes, distinct kinds.—First, Chief Secretary. Second, C. Cobbe, Esq. Six dishes, distinct kinds.—First, Chief Secretary. Second, Lord Justice of Appeal. Three dishes, distinct kinds.—First, Hon. A. Bury. Second, C. Cobbe, Esq. Single dish.—First, C. Cobbe, Esq. Second, J. Gough, Esq. Harold's Cross. Heaviest five.—First, J. Barlow, Esq., Raheny. Second, Hon. W. Proby, Glenart Castle, Arklow.

Melons, single fruit, any kind.—First, Earl Fitzwilliam. Second, H. Manders, Esq.

Plums, single dish, any kind.—First, Chief Secretary. Second, T. Hutton, Esq.

Miscellaneous.—Bronze Medal (special), to Mr. C. Turner, of Slough, for Salway Peach, being very superior. A prize to the Chief Secretary for Wallbourn Admirable; a prize to Earl Fitzwilliam for a dish of Morello Cherries; a first prize to the Chief Secretary for a dish of Tomatoes.

Table Decorations.—First, H. Manders, Esq. Second, T. Hutton, Esq. Highly Commended, Messrs. Higginbotham & Cullinan, for stand of vases of flowers.

#### GOURDS.

Single specimens, heaviest home growth.—First, Miss Hempenstall. Second, Hon. Mr. Proby (gardener, Mr. Geddes).

#### GARDEN ROOTS AND VEGETABLES.

Twelve Onions.—First, North Dublin Union, Dublin. Second, T. Thompson, Esq., Hollywoodrath, Co. Wicklow. Highly Commended, Marquis of Headfort, Kells. Commended, J. B. Stavelly, Esq., Croydon Park, Co. Dublin.

Carrots, twelve.—First, T. Thompson, Esq. Second, Earl Fitzwilliam, Co. Wicklow. Highly Commended, T. Barlow, Esq., Raheny. Commended, T. Hutton, Esq., Drumcondra.

Twelve Parsnips.—First, Mr. T. Thompson. Second, T. Barlow, Esq.,

Highly Commended, T. Hutton, Esq. Commended, the Marquis of Headfort.

Twelve Globe Artichokes.—First, C. Cobbe, Esq., Newbridge House, Co. Dublin. Second, T. Thompson, Esq.

Six Roots of Beet.—First, J. B. Stavelly, Esq. Second, T. Barlow, Esq., Highly Commended, T. Hutton, Esq. Commended, H. Manders, Esq., Richview.

Three kinds of Turnips, six of each.—First, Earl Fitzwilliam. Second, T. Thompson, Esq.

Turnips, six of one kind.—First, T. Barlow, Esq. Second, H. Manders, Esq.

Scorzoneria, twelve roots.—First, C. Cobbe, Esq. Second, Earl Fitzwilliam.

Peas, one dish.—First, T. Barlow, Esq. Second, Duke of Leinster. Highly Commended, T. Thompson, Esq. Commended, Marquis of Headfort. Commended, Beans of T. Hutton, Esq.

Brussels Sprouts, three stalks.—First, H. Manders, Esq. Second, T. Hutton, Esq.

Borcoles, three kinds, two of each.—First, T. Thompson, Esq. Second, J. Gough, Esq.

Broccoli, six heads.—First, J. B. Stavelly, Esq. Second, Earl Fitzwilliam.

Savoys, six heads.—First, North Dublin Union. Second, T. Barlow, Esq. Highly Commended, T. Thompson, Esq. Cabbage, any other kind, six heads.—First, T. Barlow, Esq. Second, H. Manders, Esq.

Highly Commended, J. B. Stavelly, Esq. Commended, T. Thompson, Esq.

Celery, Red, six heads.—First, Duke of Leinster. Second, T. Barlow, Esq. Commended, T. Hutton, Esq. White, six heads.—First, T. Thompson, Esq. Second, J. B. Stavelly, Esq.

Endive, six heads.—Commended, Mr. Pyra.

Cardoons, four heads.—Prize, Duke of Leinster.

Miscellaneous.—Commended in this class T. Hutton, Esq., for Mangels of the growth of 1864; and a special prize to a general collection shown by J. B. Stavelly, Esq.

—(*Irish Farmers' Gazette*.)

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

CALATHEA VEITCHIANA (Mr. Veitch's Calathea). *Nat. ord.*, Marantaceæ. *Lim.*, Monandria Monogynia.—Sent from western tropical South America by Mr. Veitch's collector, Mr. Pearce. An ornamental-foliaged plant, having leaves dark green, with paler crescent-shaped markings.—(*Bot. Mag.*, t. 5535.)

DIANTHUS CHINENSIS, var. LACINIATUS (Laciniated Indian Pink). *Nat. ord.*, Caryophyllaceæ. *Lim.*, Decandria Digynia.—Portrayed to show the change produced in "the modest little Indian Pink" by continued cultivation in rich soil and selection.—(*Ibid.*, t. 5536.)

DENDROBIUM TATTONIANUM (Lord Egerton of Tatton's Dendrobe). *Nat. ord.*, Orchidaceæ. *Lim.*, Gynandria Monandria.—Native of North Australia. Flowers white, petals tipped with yellow, lip blotched with mauve. They are insignificant, but sweet-scented.—(*Ibid.*, t. 5537.)

STACHYTARPHETA BICOLOR (Two-coloured Bastard Vervain). *Nat. ord.*, Verbenaceæ. *Lim.*, Diandria Monogynia.—Native of Bahia. Flower-buds deep purple, but changing to a greenish blue.—(*Ibid.*, t. 5538.)

MESEMBRYANTHEMUM ACINACIFORME (Scimitar-leaved Fig-Marigold). *Nat. ord.*, Ficoideæ. *Lim.*, Icosandria Polygynia.—Native of the Cape of Good Hope, "the head-quarters of the Fig-Marigold." Flowers 4 inches in diameter, purplish lilac.—(*Ibid.*, t. 5539.)

DENDROBIUM JOHANNIS (Mr. John G. Veitch's Dendrobe). *Nat. ord.*, Orchidaceæ. *Lim.*, Gynandria Monandria.—Native of the northern coast of Australia. Flowers purplish brown, exhaling a honey smell. Insignificant.—(*Ibid.*, t. 5540.)

EPIDENDRUM VITELLINUM MAJUS.—A large and brighter-coloured flower than the parent species, *E. vitellinum*. It is in the possession of Mr. Veitch.—(*Floral Mag.*, pl. 261.)

CYCLAMEN EUROPEUM PEAKEANUM.—Collected by R. W. Peake, Esq., during 1859 in the south of Europe. Its remarkable features are being evergreen, constantly blooming, and its flowers fragrant. Colour deep lilac. Leaves heart-shaped, and with an irregular band of very pale green on their upper surface.—(*Ibid.*, pl. 262.)

ALLAMANDA HENDERSONII.—Imported from Guiana by Messrs. A. Henderson & Co., Pine Apple Place, from whom it was purchased, and will be exhibited by Mr. W. Bull, of Chelsea. "The largest-flowered orange-yellow Allamanda known."—(*Ibid.*, pl. 263.)

PICOTÆES.—Milton, white, broad-edged with purplish lilac. Raised by the Rev. C. Fellowes, Shottesham Rectory, near Norwich. Mrs. Fisher, white, with very slight rose edge. Raised by Mr. Taylor, Oxford. They are for sale at Mr. C. Turner's Nursery, Slough.—(*Ibid.*, pl. 264.)

ANTHRURIUM SCHERZERIANUM.—"The genus Anthurium, one of the *Orontiaceæ*, is remarkable rather for the beauty of its foliage than for the showiness of its inflorescence. Some spe-

cies of recent introduction, as, for example, *Anthurium cordifolium*, *altissimum*, and *grande*, furnish, indeed, leaves which vie with those of almost any other plants we cultivate—so graceful is their outline, so soft the blendings of their velvety colours, and so pleasing the contrast afforded by the flowing lines of ivory white, marking the course of their nerves and nervures; but these, and indeed the majority of the species, can claim no importance from an ornamental point of view, in regard to their inflorescence, which comprises a spathe of dull green, and a spadix of an equally dull tone of colour.

"In the subject of our present plate we have floral beauty combined with brilliancy of hue in no common degree, winning for its subject one of the foremost places amongst stove plants recently introduced to our gardens. Its improvement since first brought into notice, too, has been wonderful. Shown first in 1862 in company with the glorious *Lilium auratum*, it was, indeed, admired, but elicited little warmth of admiration; and the figure, which about that time appeared in the "Botanical Magazine," shows the plant in a state ludicrously inferior to that in which it has been shown the present year, as represented in our plate. In the older figure just mentioned the spathe measures 1½ inch in length, and three-quarters of an inch in breadth, while as now grown, it measures about 3 inches in length and 1½ in breadth. In this improved state it ranks, indeed, amongst the finest of decorative plants.

"*Anthurium Scherzerianum* is a native of Guatemala and Costa Rica. It was introduced in 1862 by M. Wendland to the Royal Gardens of Hanover, and from this source, we believe, was received by Mr. Veitch, of Chelsea, by whom it was first exhibited in this country, and by whom the wonderfully improved plants just adverted to were also produced. It is a dwarf-habited herbaceous plant, having a short erect stem, on which the petiolete, elongate-oblong, acuminate, feathery leaves are closely packed, and from which roots are protruded between the leafstalks. From between the leaves spring up the flower-stalks, which are coloured red, and terminated by an oblong, ovate, rich scarlet spathe, which forms the most attractive part of the inflorescence, and is always bent back against the stalk. The spadix, which is orange-coloured, is quite exposed, and vermiform. The plant is easily cultivated in the stove."—(*Florist and Pomologist*, No. xlv., p. 209.)

#### PAULOWNIA IMPERIALIS BLOSSOM-BUDS.

I SEE an inquiry in your Journal from "M. E. G.," regarding *Paulownia imperialis*. Its blossom-buds will stand through any moderate winter, and will open before the leaves appear in the spring. It has been so with me in Somersetshire. —.

#### GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 7.

AMONGST the ruins of Rome, most affecting in their stupendous magnitude and majestic loneliness of decay, are the vast remains of the *Thermæ*, or Baths, of Antoninus Caracalla, where the *Arbutus unedo* and *Viburnum tinus* clothe with their dark verdure the summit of stupendous walls, each leaf and cluster of blossoms standing out clear against the soft blue sky. We read, and we do not wonder to read, that Shelley loved these ruins. The aerial height of the tremendous arches, the touching sight of so much beauty in decay, which Nature's kindly hand seeks to bide with new and wondrous forms of loveliness, are calculated to turn the dullest prose to poetry, and give a poet's spirit inspiration half divine. Built to accommodate 1600 bathers at a time, they occupy nearly a mile in circuit; and you can pass many an hour wandering about the deserted halls, climbing up crumbling walls, or examining the remains of mosaics which lie scattered about in huge fragments of ceiling or floor. Many portions of the ancient mosaic pavement remain still in the same position they occupied perchance some 1400 years ago. Some of these mosaics are entirely broken up; and I plead guilty to having gathered up a handful of tiny morsels, some of green or red porphyry, some of white marble, which I brought away to adorn my English fernery.

The water for the Baths of Caracalla was brought in part by the Claudian Aqueduct from a distance of forty-six miles, ten miles being carried over arches!—six of which still exist striding over the Campagna, and forming one of the most picturesque remains of ancient Rome.

The walls and the grass-grown chambers of the Baths abound

in interesting plants. Besides the wild *Laurustinus* and *Arbutus*, the ruins are in many parts quite hidden by trees and flowering shrubs. The Evergreen Rose (*Rosa sempervirens*), mixes its long trailing branches of bright shining green with large quantities of *Coronilla*, with its profusion of yellow blossoms scenting the air. I believe I gathered the *Coronilla glauca*, called in olden times the Day-smelling *Coronilla*; but I managed to lose my specimen, retaining only branches of a plant very like *C. glauca*, which Professor Parlato pronounced to be only a *Medicago* (*tribuloides*?), of which seven varieties are to be found about the ruins of Rome; and a tolerable specimen of the *Coronilla stipularis*, the *Coronilla valentina* of some botanists.

In "Curtis's Botanical Magazine" for 1788, t. 185, I find the *Coronilla valentina* figured, and described as a native only of Spain; and this information is also added—that the large stipule, the distinguishing feature of *C. valentina*, drop off when the plant comes into bloom. Another handsome plant I saw for the first time at Capua, as the enormous *Thermæ* are familiarly called, was the *Asphodelus microcarpus* or *ramosus*. This *Asphodel* is abundant in some parts of the Campagna, and its large raceme of blossoms rising from amidst the broad grass-like leaves makes it a very striking object, while its fleshy roots are sought after and eaten by the foxes. There is a much smaller *Asphodel*—the *A. fistulosus*, which only grows on the Colosseum, but I did not find it there myself.

Vying in size with *Asphodelus microcarpus* was the *Reseda alba*, its long close spikes of blossoms varying from 3 to 5 feet in height. This *Reseda* is not so beautiful as it is remarkable in its appearance, being almost like an ornamental shrub. It has whitish-looking petals, buff-coloured stamens, and large pinnated leaves. It gives you rather the idea of *Mignonette* striving to make itself suitable in size to the vast building which it has to adorn. But the botanist will not find large flowers alone strewn over the green carpet. He will find the *Anemone hortensis*, so faithful to Italian soil, the *Muscari*, the *Hyacinthus*; there also I believe he may find the tiny *Ornithopus compressus*, with its soft grey leaves and little yellow flowers, for it was there I think I first found it peeping up amidst the gayer bloom around.

It gave one a strange feeling, gathering those simple blossoms from amongst the shattered ruins of such glorious works of art. Strangely, too, came the thought that though the sun in the blue heavens shone never so brightly above, lighting up the noble expanse of building so unspeakably touching in its utter decay, and glancing so merrily from bough to bough and from leaf to leaf—yet in this spot, where Nature seemed so at unity with herself, the fatal malaria reigns supreme, preventing the custodian of the *Thermæ* from remaining in the ruins at night. How I hated the mysterious malaria I could never tell. It is worse than the brigands, for when once it seizes you, no ransom will effect your escape. It is worse than assassins—more stealthily in approach, more difficult to elude. Taking innocent country drives, you return with a headache, you tremble—it is the malaria. Unwittingly you have invaded its territory and you are caught. Sometimes it comes stealing up from its invisible lurking-place quite early in spring, and monks and nuns have to flee before it, away from their country monasteries to the town, into which it follows them, house by house, and street by street, into the very Corso itself. Sometimes it waits for summer; but sooner or later it comes, bringing fever and death in its train. The *contadini* have to shut up their cottages and find homes elsewhere for the unhealthy season, so that one misses in their dwellings the home-like look of the English labourer's cottage garden.

Leaving the Baths of Caracalla, a very slight detour brings you into the Via Appia, or ancient Appian Way, the very road along which St. Paul travelled when, met at Appii Forum by the "brethren," he accompanied them to Rome. St. Paul was on his way to prison and to death; we, in a luxurious carriage, were taking our easy way to the Catacombs of St. Sebastian. We passed by the tombs of the Scipios, by the little church of "Domine quò vadis?" said to be built on the spot where our Lord met St. Peter trying to escape from martyrdom. The legend states that St. Peter, startled at seeing our Lord, exclaimed, "Whither goest thou, Lord?" and that Jesus replied in a voice of tenderest pity, "To Rome, to be crucified for my servant Peter." Then St. Peter turned and retraced his steps to sufferings and death, counting it joy to suffer for his Lord; and then the legend adds that our Lord left the print of His feet in the stone where He stood; and they show you a copy of the stone, and sell you medals com-



memorating the miracle. Still passing onwards by ruined tombs—by the Catacombs of St. Calistus, we come in sight of the tomb of Cæcilia Metella, which St. Paul must have seen even as we see it, only with the marble whiter and purer. He, too, must have seen the wondrous beauty of the Claudian Aqueduct on its mission of mercy, bringing, as he brought, waters of consolation to thousands of thirsty souls.

I can fancy nothing more weird-like than the Catacombs, or ancient dwelling-places of the dead. Far down below the light of day, each visitor proceeds to examine them with a long lighted taper in his hand, the procession being led by a monk. As the party winds along the subterranean passages in single file, every here and there you meet other weird-like processions—some of priests, some of pilgrims, some of gaily dressed ladies, whose bright voices, telling of earth and earth's gay hopes, seem out of place in these gloomy regions. I shut my eyes, and the fading footfalls seemed to my imagination as those of the early Christians, stealing along in silence and fear to worship the God and Saviour they loved amidst the bones of a thousand heathen. Every now and then we came on a small square chamber, in which the little persecuted band met to celebrate the Last Supper of their Lord. How fresh in their memory was the blessed thought, that not very long before St. Paul had trodden the sacred way by which they approached the Catacombs, leaving them an example of courage and constancy to follow in his steps. The highest interest of the Catacombs is now wanting, as nearly all the monuments have been removed to the Gallery of Inscriptions in the Vatican; and it was with an intense feeling of relief that I passed from the ghastly subterranean passages up to the clear light and free air of heaven.

Better than wandering in the Catacombs did I like to wander up and down that noble Gallery of Inscriptions in the Vatican, reading many a useful lesson of pride brought low and humility raised even to the heavens. Amongst the ancient Pagan inscriptions are many curious ones—curious in grammar, curious in the proud disregard they paid to all the laws of metre in their verses, and curious in the diversity of the trades recorded. There is one to a "medicus jumentarius," or cattle doctor: did he know a cure for the rinderpest, I wonder? Another is to the "topiarius," or ornamental gardener; and from this I thought that the ancients must have paid more attention to their gardens than the modern Romans seem to do. But the monuments on the left hand of the gallery are the most interesting, for they are those of the ancient Christians; and their affecting expressions of peace and hope shine out in bright contrast with the Pagans' hopeless grief. How wonderful they were in their rude and hurried workmanship! Probably they were executed in fear and haste, with but little light to guide the trembling hand. Many of them had been over the dust of martyrs, yet there was no grief expressed—they all speak of joy, and peace, and life. I read no high-sounding praises of the poor form whose mortal agony was over. On one there was the rude sculpture of a dove, and by its side these simple words, "Aurelia vivas." I seemed to see the inhuman Roman crowd watching the expiring breath of the young maiden, thinking that she was dead; but it was not so—"Aurelia lives." Some of the slabs had a rudely chased chalice, some a vine, some the dove with the Olive branch; but one and all had the breath of Immortality about them, testifying of faith in Him who is the Resurrection and the Life.

I cannot leave the Vatican without telling of its picture gallery up the weary flight of stairs, to which I was carried by two men in a chair of state. Arrived at the top, I sunned myself for a few minutes, while looking from the windows at the view of Rome. Below lay the Piazza of St. Peter with its playing fountains, and beyond was the city, and beyond the city were the snow-clad glittering mountains, and above, a sky of soft grey blue, with banks of fleecy snow white clouds.

From the world of Nature you pass to that of Art, each perfect in itself. The gallery contains not more than fifty pictures, but nearly all are good; and yet to me there seems but one—one which by its radiance dims all others. As the interior of St. Peter's satisfied me, so did Raphael's "Transfiguration" satisfy me, stamping itself on my mind in colours never to be effaced. Each figure speaks, telling the sacred story in language unutterably forcible. On the mountain top the Lord is transfigured. Raised from the earth, His body floats in the air in a flood of glory. St. John longs, yet hardly dares to meet the sight. St. Peter, more bold, looks on. St. James hides his face. Moses and Elias are on each side below

the Lord. At the foot of the mount are the nine Apostles, the poor demoniac just brought before them. The faces of the father, mother, and friends express an agony of faith just broken—not gone, but startled. They seem to say, "We believed that ye could cast the devil out: we have brought our son, obedient to our faith. What! have ye no power? To whom, then, can we turn for help?" One of the Apostles is pointing to the mount with outstretched hand; he seems to say, "Alas! we are powerless, but the Healer is there." This picture must stand alone for ever, it has the very life of painting in every part.—FELIX-FEMINA.

### THE FUCHSIA SPORTING SEASON.

If your columns are open to the recording of sports, freaks, and monstrosities in the vegetable kingdom, perhaps you will allow me, a subscriber of some years, a little space to state what has come to my Fuchsias.

In my garden at the present time (October 11th) may be seen one flower with only two sepals, and another with five, whilst a third bears eight perfect sepals, equidistant, and reminding any one of an eight-sailed mill.

These eccentricities appear on three separate plants of distinct varieties, and may not be an unusual occurrence after all, though they struck me as being somewhat remarkable. May the dry season be the cause, the pots having been plunged in the open ground?—CHAS. OLDHAM, *Rhosddu, Wrexham*.

### SUPPOSED NEW EDIBLE-FRUITED PASSIFLORA.

I HAVE sent you a few seeds of an entirely new and unnamed *Passiflora*, which I raised from seeds brought by a friend of mine from outside Rio Negro, on the Amazon River, South America. The leaf is very large, about 8 inches across, the blossom white, spotted with pink, very original; and the fruit, for which I shall hereafter grow it, is by far the best of any of the tribe. It is about the size of a Peach, covered with bloom, and the inside is most delightful, most like a very fine Pear, and as good, I think, as any fruit we have. Two judges of such things, who tasted with me, express the same opinion. I consider it the best hothouse fruit I ever tasted. It is a free setter, I should think, as the only three flowers I have yet had produce fruit which I eat about a week ago. I may add, it requires a high stove heat, very great damp, and little air. My seeds from America were sown this time last year. It is, however, rather rambling. Can you suggest anything likely to make it keep more within bounds? I intend devoting a span-roofed house entirely to this one, with *Passiflora edulis*, and *P. quadrangularis*. A few hints would very much oblige.—J. H.

[We have sent the seeds to the Royal Horticultural Society. The best way to lessen the luxuriance of all such *Passifloras*, is to plant them in boxes made of terra cotta, brick, or slate—say 2 feet square, and as much in depth. These mulched on the top, or supplied with manure water, will make the plants luxuriant enough. Ringing the stems, and root-pruning, will also prevent extra luxuriance.]

### VINES WITH ROOTS CONFINED WITHIN THE VINERY.

CAN you give the result of planting Vines inside a house, and keeping their roots there, having no outside border? Opinions vary on the advantage of this system, but experience is a more certain guide. If any person can speak as to the success or otherwise of this treatment from, say a ten-years trial of its merits, he would by doing so confer an advantage on those who contemplate erecting vineries.

I have recently put up two houses 26 feet by 15 feet, with arches in the front walls, to allow the roots of the Vines to pass under, if they should ever be required to do so. These arches are closed with brick, and the Vines are planted on a thoroughly well-made inside border. I hope the border will support the Vines for several years as it is, and for many years afterwards by means of top-dressing, that there may be no necessity for making an outside border.—ALFQUIS.

[We have seen fine Grapes from inside borders, and have known trees bear heavily for many years planted in the middle

and back of the house. There can be no doubt that your plants will do well planted inside. We have a strong opinion that when Vines are planted inside, there should be openings between the Vines to let the sun reach the ground inside. When the whole roof inside is covered, the ground inside does not receive enough sun. With Vines trained up the rafters, or down the rafters, there can be no objection whatever to the roots being all inside the house, and any amount of strength can be given by top-dressings and rich waterings.]

#### CLIANTHUS DAMPIERI MARGINATA ELEGANS. AUBRIETIA CAMPBELLI.

We have received from Messrs. E. G. Henderson & Son, of the Wellington Road Nursery, drawings of these acquisitions to our garden plants. The *Clanthus* is white, with a uniform scarlet edge round the wings, keel, and standard, whilst the two-lobed projection at the base of the disk is purplish velvety black as in the old species. It is a most beautiful and unique flower.

The *Aubrietia* has white-eyed purple flowers, which it produces in great profusion. It has had awarded to it a first-class certificate at one of the Regent's Park shows, where it was exhibited by mistake under the name of *A. Hendersoni*. It was raised by Mr. N. Campbell, Queen's Nurseries, Brighton. It must become a popular bedder.

#### BARCELONA NUTS GROWN IN ENGLAND.

More than thirty years ago I sowed some Barcelona Nuts in consequence of a conversation at table, when some denied they would grow, as they were supposed to be kiln-dried. I send you herewith a sample in a bottle of the produce of these same nuts lately gathered. They appear to me to have come true to their parent, although I think larger, and we find them richer in flavour and finer in texture than any English nut, not excepting Kentish Filberts. They are tender, and the shells are very thin. All the trees are not of equal quality in size and handsomeness of fruit, but the latter are all thin-shelled, and first-rate in flavour in all seasons.—CHARLES ELLIS, *Upper East Sheen*.

[We could discern no difference between the nuts sent to us and those imported, except that the shells were rather more tender, and the kernels more moist—characteristics attributable to their being more fresh than those brought from abroad.]

#### A BORDER OF BULBS.

For a border several hundred feet long, close on 4 feet wide, in front of a wall covered with Roses, as needed by our correspondent "A. K.," the great difficulty is to have it in full bloom with spring hardy bulbs at one time—that is, if you vary greatly the kind of bulbs. For instance, that border would be very beautiful in February and part of March if planted with Crocus alone, say beginning at front with 1, purple; 2, white; 3, blue; 4, large yellow; 5, dark blue; 6, Cloth of Gold or Cloth of Silver; or three serpentine lines might be run along the border, filled with purple, large yellow, and blue, and the semicircular spaces in front filled with Crocus versicolor, and those at top with white or Cloth of Silver. To produce a grand effect the good bulbs should not be more than 2 inches apart in the row. To succeed these there might be four rows of Hyacinths, of distinct colours, as rose, blue, white, crimson. The small Duc Van Thol Tulips alone would give five rows of distinct colours in the single section, and would only be from 4 to 6 inches in height; they should be planted about 3½ inches apart, as 1, red and yellow; 2, rose; 3, white; 4, scarlet; 5, yellow. These would be over early in May, to make way for bedding plants. Of double Tulips there might be four rows, beginning with 1, Duc Van Thol, scarlet and yellow; 2, La Candeur, white; 3, Rex Rubrorum, crimson; 4, Tournesol, shaded dark yellow. These would need no protection, and Hyacinths would need some in wet and frosty seasons. We have only mentioned the common hardy sorts, of which there would be no difficulty in securing plenty for a row several hundred feet in length.

A nice border would be thus made:—A row of yellow Crocus within 6 inches of the front; a row of Duc Van Thol Tulip, within 9 inches, choosing the scarlet single; then a row of La

Candeur, white; then Rex Rubrorum, crimson; and then for the back a row of Soleil d'Or, or States General Narcissus.

The straight-row system might be used this season, but our impression is that such a border would be better if, by the mode of planting it, it were either waved or broken up into a regular parterre, and the whole would look better if the surface of the ground were thinly covered with the Swiss Forget-me-not in blue, and Virginian Stock for blush, or with some other early flowering low plant, as *Nemophila*, sown in autumn and planted out early in spring. These little plants would be a sort of carpet for the bulbs. We hope some of our friends will help this correspondent better.

#### "IS THE ROSE A FLORIST'S FLOWER?"

Is the salmon a fisherman's fish? A florist's flower, as I understand it, is a flower which those men who love it most are carefully endeavouring, by selection, inoculation, and cultivation, to improve in form, colour, and habit; and what flower in all the world is so worthy of their service as the lovely Rose? I believe "*Rosa Canina*," in his letter to your contemporary of October 7th, to be entirely mistaken in supposing that the florist deprecates those flowers which do not reach his ideal of perfection. It is because he sees so much beauty in a *Général Jacqueminot*, that he strives for a *Senateur Vaisse*, and it is because his admiration of all Roses is so earnest, that at last he throws up his hat in ecstasies, and gloats upon Charles Lefebvre. 1, of course, agree with "*Rosa Canina*," that he, of all men else, is to be shunned, who goes about a garden like an exciseman with his gauge, and admires by line and rule; and I am grateful, as he is, that the Rose defies those wily manipulations which are practised upon certain flowers; but I hold that the true florist has no sympathy with the ignorance of the one, or the impositions of the other, and that the Rose is, *par excellence*, that florist's flower.—MARÉCHAL NIEL.

#### BOTANICAL COLLECTIONS.

WE recommend the following to the attention of our readers:

"J. Smith, late Curator of the Royal Botanic Garden, Kew, having through failure of his sight resigned that office, is now desirous of disposing of his herbarium, either as a whole or in separate collections.

"It consists of a very complete collection of Ferns, and also a general one of flowering plants:—

"1.—The Fern collection represents more or less fully the Fern Flora of the islands of the West Indies, North America, Mexico, Central America, Peru, New Granada, Venezuela, Guiana, Brazil, Tropical Western Africa, South Africa, Mauritius, Ceylon, India throughout, Malayan Peninsula and Islands, the Philippine Islands, Hong-Kong, Formosa, China and Japan, Australia, Tasmania, New Hebrides, Sandwich and other islands of the Pacific.

"Each species, with few exceptions, is on a separate sheet of stout white paper, 21 inches by 13, with name, synonyms, and references written on the sheet, as also the native country, and from whom received. Each sheet contains one, two, or more often many specimens of a species; the various peculiarities and geographical range of individual species is thus well illustrated, and has been particularly attended to in the formation of this collection; the number of species being about 2000, more or less, including all the rare and interesting species. The total number of sheets, 6460. If the collection were broken up it could be formed into at least three good sets. The whole collection is scientifically arranged, and contained in a cabinet 6½ by 6½ feet, divided into fifty-five compartments. This collection was considered by Sir William Hooker to be second only to his own.

"II.—The flowering collection of plants consists of about 5000 species, representing nearly the whole of the natural orders; of these 1600 are native specimens, and above 3300 garden, chiefly collected between the years 1824 and 1844, the early-collected ones being on paper less than the usual herbarium size; the larger number, including *Proteaceæ*, *Myrtaceæ*, New Holland *Acacias*, and other *Leguminosæ*, *Euparietideæ*, &c., are all on full-sized herbarium paper, and arranged in their respective orders. The garden specimens are records of plants introduced by our early collectors, as Masson, Cunningham, Bowie, and others, many of which are singular and remarkable, and not now in the gardens of this country. The



1600 native specimens are chiefly selections from the Indian collections of Wallich, the herbaria of Lambert, Gardner, Cunningham, and Bowie. Besides the above there is a collection of Gramineæ, Cyperaceæ, Juncaceæ, &c., amounting to about 480 species; they consist chiefly of garden specimens, collected between the years 1826 and 1836, when these orders were particularly studied, and they are believed to be all correctly named. The general collection contains a small set of Australian terrestrial curious Orchids, introduced by Cunningham, during the years 1824, 5, and 6, and which flowered at Kew. There is also a special collection of garden Ferns, consisting of 460 species, all fixed on the usual herbarium-sized paper; likewise several small special collections.

"Further information and particulars respecting the above collections will be given on application, by letter or otherwise, to Mr. J. SMITH, Park House, Kew, near London."

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

Now is a good time for thoroughly draining any part of the garden that wants it, to replant Box and other edgings, or to mend the gaps where it is not necessary to remove the whole, to prepare gravel, &c., for new walks, and for repairing the old ones, to make any necessary alterations, and to thoroughly trench and drain ground newly taken in, and every spare piece in the garden, choosing suitable weather for these operations. Care should always be taken not to operate on close, retentive, badly-drained soils when full of water, which they will continue to be while heavy rains prevail. *Broccoli*, such as is now becoming too luxuriant may be checked by laying. *Cabbage*, those who have spare ground should still continue to put out Coleworts and Cabbage plants, or if any strong plants of Savoys or the varieties of Kale should be left in the seed-beds, by all means put them out thickly—say at Colewort distances; and those that are fond of Turnip Greens at an early season, if they have any overgrown Turnips left in the beds, should at once collect and plant them 1 foot apart on warm borders, quarters, or sloping banks. *Cardoons*, tie-up for blanching when the leaves are quite dry. Twist haybands round so that the soil may not come in contact with the leaves when earthed-up. *Cauliflowers*, continue to prick out under hand-glasses and in frames. Any that are now fit for use should be preserved in a cool place. *Celery*, advantage should be taken of fine weather to earth it up. Keep the whole of the leaves together. *Cucumbers*, those in boxes or pots should have a top-dressing of rich soil occasionally. When giving water at the roots let it be heated to 80°. *Herb-beds*, fill up and dress them for the winter. *Horseradish*, dig up a portion for winter use, clear away the leaves as soon as decayed. Hoe and stir amongst all growing crops in suitable weather, and collect all dead and decaying leaves.

### FRUIT GARDEN.

When the wood is well ripened and root-pruning is intended, either with wall trees or those in open quarters, a commencement should be made with the earliest-ripened trees first. See that the potted Strawberries are secure from the wet. Run a soft broom over the Peach and Nectarine trees with great care to take off just the very ripest of the leaves. Pruning may now be commenced amongst Pears and Apples. Cut the dead wood out of Raspberry stools, and tie the young wood to the stakes to prevent injury from high winds. The preparation of quarters for the reception of Gooseberry and Currant bushes should be completed, as planting may shortly commence. The storing of fruits as well as their after-management, must this season receive particular attention. The Apples and Pears should be carefully wiped and regulated after sweating. The Medlars and Quinces should be collected in good condition. To select perfect Walnuts for storing, the best plan is to immerse them in water after the husks are taken off, and all that are quite perfect sink at once to the bottom, while the imperfect Walnuts will float, even those that have the least possible deficiency in the kernel will do so. Those that have been sweated should be well cleansed by being placed in a dry sack and shaken by two persons from end to end, the friction will clean them perfectly. Shreds should be prepared in wet days, as well as labels for naming fruit trees. See that the old wall nails are cleaned and in readiness for use.

### FLOWER GARDEN.

Steps should now be taken to fill up the beds as they are cleared, for the purpose of contributing to the enjoyment of

spring. A miscellaneous mixture of dwarf early-blooming shrubs, perennial plants, and bulbs is most commonly planted; but, as has often been stated, in regularly laid out beds, or in geometrical flower gardens, the arrangement of colours should be carefully considered, as there is an abundance of spring-flowering plants and bulbs to form a rich and varied display, if properly arranged. A very pleasing effect can also be produced by sowing all the spare beds with Californian and other hardy annuals. These stand the severity of our winters, and by their gaudy colours make quite a gay appearance in the months of May and June. The following are the species which will answer the purpose well:—*Nemophila insignis* major and minor, blue; *Nemophila atomaria*; *Clarkia pulchella* alba, and *Iberis coronaria*, white; *Silene pendula*, *Leptosiphon densiflorus*, *L. androsaceus*, *Collinsia bicolor*, and *Gilia tricolor*; *Clarkia pulchella* and *Iberis umbellata*, rose; *Erysimum Peroffskianum*, and *Eschscholtzia crocea*, orange; *Godetia Lindleyana* and *Collinsia grandiflora*, purple. *Sphenogyne speciosa* sown now, and protected during winter, will make a brilliant orange-yellow bed. *Lupinus nanus*, and *Convolvulus minor*, treated in the same manner will form splendid blue beds. A good stock of new sawdust should be laid by in a dry shed to put round the stems of tender Roses or half-hardy plants; this should always be obtained as new and fresh as possible. It should not, however, be applied to the plants for some time, and when this is done a dry period should, if possible, be chosen, as a casing of such material after heavy rains would probably prove very prejudicial, for confined damp is even a greater enemy than frost in many cases.

### GREENHOUSE AND CONSERVATORY.

All plants belonging to these structures should now be under glass. Cleanliness and free ventilation, whenever the weather will admit of it, should receive constant attention. If unfavourable weather should occur, do not hesitate to use a little fire heat at times, especially if the houses contain a good many plants in bloom. The Chinese Primroses to be now removed to a shelf in the greenhouse as near the glass as possible; give plenty of air at all favourable opportunities. Herbaceous Calceolarias to be treated in the same manner, and duly attended to with water. Cinerarias to be protected from the ravages of green fly by fumigations of tobacco or by syringing with tobacco water. If any of the beautiful tribe of Tropæolums, particularly *T. tricolorum* and *brachyceras*, that have flowered early in the season, begin to grow they should not be checked, but allowed to grow slowly through the winter; but if there is no appearance of growth, which is best for their future success, the roots should be kept inactive in a cool place with the soil about them quite dry, and protected from mice. Camellias to be carefully supplied with water, to prevent the dropping of the buds, leaving not more than two flower-buds on each shoot, and retaining the largest and the smallest in order to have a succession of flowers. The leaves, if necessary, to be washed clean.

### PITS AND FRAMES.

As the Right Hon. W. F. Cowper has kindly placed at the disposal of the clergy, and the managers of ragged schools, refuges, hospitals, and workhouses the plants in the public parks, a few instructions on the subject of their preservation may be acceptable. When the plants are obtained and potted, they will require a little bottom heat or a close place to start and establish the roots in the fresh soil. For the want of bottom heat to start the plants we have seen persons put to much unnecessary trouble in their fruitless endeavours to preserve them through the winter. As the frost has not touched them there is a greater probability of preserving them. The plants that have been headed down for cuttings, and are now breaking, are the best for keeping through the winter. The cuttings of Calceolarias may be now put in in a close pit or frame, where they will be easily kept during the winter, with air in mild weather, as they are very liable to damp off in heat. We would advise those who can spare time to wash all their pit and frame glass before the dark weather sets in, the great disproportion of the light to the heat is the great drawback to forcing in Great Britain and Ireland during November and December.—W. KEANE.

## DOINGS OF THE LAST WEEK.

THE rains that we expected as the result of clear hot days and frosty mornings, came in due course in the beginning of



the week, and have done much not only to moisten the dried soil and invigorate all growing vegetables, but also to produce, for our benefit, a purer and healthier atmosphere. A regular downpouring, as we had on Tuesday and Wednesday night, combined with a nice bracing breeze, will, we hope, tell on the health of our cattle, as well as promote the comforts of the inhabitants in our towns and villages.

The rains which we have already had, and those we may yet hope for, will render the ground very suitable for all alterations in lawns, turf-laying, walk-making, and planting and removing all kinds of evergreens. Even if the ground were still dry enough, it would be of importance to hasten on all such work, though watering should have to be resorted to, as the milder and somewhat cloudy condition of the atmosphere will arrest evaporation from the foliage, whilst the heat in the soil will excite the roots to push out fresh fibres at once, and thus establish themselves before the severity of winter. The great advantage of early autumn planting is thus securing fresh roots to the plant, and hence enabling it to meet the bright sun and the dry air of the next spring without shrinking and shrivelling. Moderate watering, so that all the roots are moist and firmly packed, will be a better plan at this season than soaking and puddling them with water, which places the roots in an unnatural position as respects moisture, and, unless the surface is kept dry, will also make the soil cold by the increased evaporation. Such plants, even in the spring, if they need watering, should have it given in moderation. Often we have seen hogsheads bashed on the soil, when a few gallons thrown over the stems and branches, or a little shade, would have been more acceptable to the plant.

*Turfing*, and other alterations on lawns, can now be done with more ease and comfort than at almost any other season. Furnished with leather knee caps, or a thick pad, the workman, so long as the ground is warm, is not likely to suffer from colds and the attendant rheumatism, and there will be no difficulty about making sure of the grass growing well with the smallest medium of beating and rolling. To do much of such work in winter is often very unsatisfactory to all concerned. When performed late in spring the sun often renders considerable labour necessary to keep the turf from gaping, or even drying up; and, besides, in most gardens now, the spring brings such an amount and variety of extra work, that it is wise and sound policy to have as much as possible of all new work, changes, and improvements completed in the autumn.

#### KITCHEN GARDEN.

Before the rains came we managed to run the hoe through all growing cress, and, in the case of Artichokes and Asparagus, to remove a few of the weeds. A lot of Chickweed was beginning to thrive among the Asparagus, which it was not easy to get at, and made the cutting down of the Asparagus very desirable, as the seed was ripe enough, but the branches were not so free from green as we would wish to see them. At a late horticultural show Asparagus was shown in a collection. We presume it was obtained by cutting the beds down too early. A correspondent informs us this week that his beds becoming very weedy, he mowed them over in September, so as to clear them thoroughly, and now, he says, the fresh shoots are 18 inches long. He fears, as we do, that the beds, which were in good order, will show the effects of this second growth next spring. No doubt the extraordinary, almost tropical, heat of the season had something to do with it, but it would have been better if the clearing of the beds had been delayed.

Moved away all the withering and a few of the greenish leaves from Sea-kale in order to arrest growth and prepare for forcing. Where this is used largely during the winter a considerable space will be required for it. This, Rhubarb, Asparagus, Artichokes, Globe and Jerusalem, Horseradish, herbs, and small fruit demand a good space in a small garden; and yet, though all these are grown, and for forcing too, in an acre of ground, some people think that that acre should never be without the other vegetables that are wanted every day for a large consumption.

Gave plenty of air to young Cauliflowers intended for the main crop next spring, the plants being still small. Watered with manure water that forming nice heads. Planted out more Lettuces to stand the winter, tied-up others for use; sowed Endive with tiles and boards for blanching, and earthed-up a piece of Celery. Will take up Carrots as soon as the weather is drier, the ground is not yet wet at all, though more comfortable on account of the rain. In rainy days washed pots, made tallies, &c., and collected into a heap a lot of rubbishy brushwood and weeds to be ready for charring and burning. Such

things accumulate during the season, and we generally set fire to the heap when there is no one particular about the place, or when the wind is in the right direction for taking the smoke away. Bad weeds, as the Bindweed or white Convolvulus, &c., are generally taken to such a place during the summer, for when charred, or burned, there is no chance of their growing. Such weeds, grass, edgings of walks, &c., generally cover the heap before any refuse or worthless soil is added, and when all that is possible is charred, the rest is burnt up with such earth and forms a good addition to heavy soils. Before making up the heap the best of the rubbish, prunings, &c., is selected for small handfuls of wood for lighting fires, which are generally kept under cover. These bad-rooted weeds, and a few that may be showing seed, are, as a general rule, all we care about moving out of the garden. Others, cut up when young, will generally find the sun too much for them. We have proved over and over again, that the troublesome though beautiful white Bindweed, which if left to itself will soon cover a garden with its long white roots, every bit of which will grow, may be thoroughly destroyed if every shoot is cut with the hoe by the time it is 2 or 3 inches long, but the shoots must not be missed or ever allowed to grow. We believe that lots of it sprung up in the garden from some pieces of roots being long ago taken to the general rubbish heap (of which we are careful as manure), and being from thence wheeled back to the garden and dug in for different purposes; the smallest bit of the white stringy roots is almost sure to grow and increase as rapidly below ground as the top does above it. There is scarcely anything that runs so quickly either above or below the soil.

Many bad-rooted weeds, such as the Nettle, may also be eradicated by constantly cutting the tops when young. Cutting once or twice a year will not do, though that will weaken the roots. Digging the ground to pull out the roots will be of little use if they are not taken out very clean. The Nettle generally attends the footsteps of man. By the sides of roads, amid the ruins of old buildings, and in neglected worn-out gardens the Nettle has its appropriate home. Whatever there may be of the cheering about it, as thus associated with man and his doings, is, however, more than counterbalanced by the tale it tells of carelessness and neglect. Some of our vegetarians have much to say in its favour in a sanitary and a nutritive point of view, and there are worse vegetables than very young Nettles nicely hoiled, but, unfortunately, the lovers of the Nettle may find plenty of it without as yet having any necessity for growing it in gardens. Where even the spade and the fork have failed to destroy the intruder, the scythe and the hoe frequently during the summer settled the matter. Many of the worst spreading perennial weeds will in time be destroyed below ground if they are allowed no rest or leave to expand above it. In most gardens some of these will escape our notice until the growth above, by reproduction, has increased the strength of the roots and stems below. Many of our keen villa and amateur gardeners could easily amuse themselves with a spud or a small sharp Dutch hoe where they could not well be expected to labour with a spade or a fork, and these little tools persistently used will do wonders in eradicating our worst weeds. The best place for Nettle roots, if dug up, is the charring and burning heap.

#### FRUIT GARDEN.

Took the last of the clearings from a piece of Strawberries, to be thrown over the charring rubbish-heap. A good many leaves had become brown from the heat, and if any thrips or red spider should be on them the heated heap will be the best place for them. This season we have noticed lots of the red spider on pastures, and on the trees of young plantations. Moisture and coolness at night we look upon as the great enemies of this little pest under glass. The coolness at night, so refreshing to many plants, is very detrimental to insect life that rejoices in a high temperature and a dry atmosphere during the day. Other preventives and deterrents, as sulphur fumes, must also generally be resorted to.

Went over again all Strawberry plants in pots, removing all runners close home; but they had been so picked off that there were only comparatively few to remove. The great object now should be to concentrate the strength of the plant into the crowns, and to mature them as much as possible. The weather, until this week, was so hot that a good deal of watering was necessary; but now if much rain fall the plants would be better to be protected from it, and if other means cannot be resorted to, the pots may be laid on their sides: we shall shortly do so with the earliest that we shall use first.

Will gather almost all but the very latest Apples and Pears



as soon as the weather shall be thoroughly dry. Examined what had already been gathered, and removed all rotting and specked fruit. Soft early Apples should rarely go to the fruit-room, but be kept in a place by themselves until used up. If the fruit-room is kept airy at present, so as to thoroughly dry the fruit and take off the exhalations of moisture, the place may be kept pretty close in winter, and thus prevent the chance of shrivelling. Some of the best late fruit of Apples and Pears keep longer plump and sound if each is wrapped in paper, and packed in dry sand in little barrels or earthenware vessels. They often come out in spring as plump as on the day in which they were gathered.

Could we find time we would prune the trees that were pinched-in in summer, as it would concentrate the juices of the trees more, and the work is much more pleasantly done now than in cold days in winter; but there are always plenty of jobs jostling each other.

Preparations should also be made for planting fruit trees, by removing old soil and giving fresh, or at least as much as will furnish an elevated station, and securing drainage where needful. Some stiff soils need little drainage owing to marl with the clay in the subsoil, which opens a passage for the water. Putting a lot of rough stones below a station for a fruit tree in a close subsoil, through which the water does not easily pass without draining, is nothing less than securing a reservoir of water beneath the roots, and encouraging them to strike down every dry season. It would be well did we oftener recollect that great luxuriance and great fruitfulness will ever be in an inverse ratio to each other. If we want an Oak to tower up nobly we must let it root deeply, and the better and deeper the soil the freer and quicker the growth. Were we to treat a Pear tree in the same way, we might expect the fruit to gladden the next generation. By shallow planting and keeping the roots near the surface, at times giving rich surface-dressings, and pruning roots when necessary, fruit may be obtained two or three years from the time the tree was grafted.

Our last Peaches from the lean-to orchard-house will be used before this is printed. It is quite true, as Mr. Rivers suggests, that we have had no such large houses as his to manage, but what little has come under our observation confirms us in the proposition that such unheated houses, according to the kinds used and the treatment given, may be employed either for accelerating or retarding to a certain extent. Of course we cheerfully look up to Mr. Rivers as our best master in such matters, and we are well aware that the management of lean-to's must be something different from those huge wide span-roofed houses. To Mr. Rivers belongs the honour of demonstrating that in such large span houses side ventilation was so far sufficient that little or no roof-top ventilation was necessary, greatly simplifying the whole affair as respects fruit-growing. We much wished to have paid our second visit this summer, as no one should be content to sit still if he can by any means get on the line of progression. Our observations lead us to conclude that many failures in the smaller lean-to houses have been the consequence of not having enough of top ventilation, or not giving it early enough. If left on night and day there could scarcely be a mistake. The suitability of side ventilation almost alone for span-roofed houses has led some to be careless of top ventilation in lean-to houses, though these top-openings were there the chief means of safety.

#### ORNAMENTAL DEPARTMENT.

Very much the same as last week—cleaning, potting, making cuttings, &c., giving more room to Cinerarias, Primulas, &c., and collecting some fresh soil from the sides of the highway for planting Calceolaria cuttings next week. Some of the Calceolarias had made so little wood that had not flowered, that we gave them a watering a few days before the rain came. By-and-by we shall begin to take up some of the most tender bedding plants, as the beds will scarcely be so fine again after the rains and winds. Room! room! will soon be the outcry with us, and with every gardener whom we know. Few, indeed, can have a place for everything, and many compromises must be made before the middle of May comes round again.—R. F.

#### TRADE CATALOGUES RECEIVED.

John Scott, Merriott Nurseries, Crewkerne, Somerset.—*Descriptive Catalogue of Nursery Stock. Descriptive Catalogue of Fruit Trees.*

#### COVENT GARDEN MARKET.—OCTOBER 14.

SUPPLIES continue ample for all requirements. Some very good second-crop Strawberries have made their appearance, also green Figs, for which, however, there is not much demand. Some good specimens of Salway Peach are still to be had. Grapes are still very plentiful. Vegetables the same as in previous reports.

##### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	0 to 2	0	Melons.....	each 4 0 to 7 0
Apricots.....	doz.	0	0	Mulberries....	punnet 0 0
Cherries.....	lb.	0	0	Nectarines.....	doz. 0 0
Chestnuts.....	bush.	16	0	Oranges.....	100 10 20 0
Currants, Red 1/2 sieve	0	0	0	Peaches.....	doz. 10 0 15 0
Black.....	doz.	0	0	Pears (kitchen)..	doz. 1 0 1 6
Figs.....	doz.	1	6	dessert.....	doz. 1 0 2 6
Filberts.....	lb.	0	9	Pine Apples.....	lb. 4 0 7 0
Cobs.....	100 lbs.	90	0	Plums.....	1/2 sieve 2 0 4 0
Gooseberries..	1/2 sieve	0	0	Quinces.....	1/2 sieve 3 0 4 0
Grapes, Hambro..	lb.	1	6	Raspberries.....	lb. 0 0 0 0
Muscats.....	lb.	3	0	Strawberries....	lb. 3 0 4 0
Lemons.....	100	8	0	Walnuts.....	bush 14 0 20 0

##### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	each	0	4 to 0 6	Leeks.....	hunch 0 3 to 0 0
Asparagus....	bundle	0	0	Lettuce.....	per score 0 9 1 6
Beans Broad..	bushel	0	0	Mushrooms....	pottle 1 6 2 6
Brinney.....	1/2 sieve	3	0	Mustd. & Cress, punnet	0 2 0 0
Beet, Red.....	doz.	2	0	Onions.....	per bushel 3 0 5 0
Broccoli.....	bundle	1	0	pickling.....	quart 0 0 0 6
Brus. Sprouts..	1/2 sieve	2	0	Parsley.....	1/2 sieve 1 0 1 6
Cabbage.....	doz.	0	9	Parsnips.....	doz. 1 0 2 0
Capicums.....	100	1	0	Peas.....	quart 0 0 0 0
Carrots.....	bunch	0	4	Potatoes.....	bushel 2 6 4 0
Cauliflower....	doz.	3	0	Kidney.....	do. 3 0 4 0
Celery.....	bundle	1	0	Radishes doz. bunches	0 6 1 0
Cucumbers.....	each	0	6	Rhubarb.....	bundle 0 0 0 0
pickling.....	doz.	2	0	Savoy.....	doz. 0 0 0 0
Endive.....	score	1	0	Sea-kale.....	basket 0 0 0 0
Fennel.....	bunch	0	3	Spinach.....	bushel 2 0 3 0
Garlic and Shallots, lb.	0	8	0	Tomatoes.....	1/2 sieve 1 0 2 0
Herbs.....	bunch	3	0	Turnips.....	bunch 0 4 0 6
Horseradish..	bundle	2	6	Vegetable Marrows dz.	1 0 2 0

#### TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up in the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

HOGG'S FRUIT MANUAL (*A Fruit-Grower*).—The third edition is now passing through the press.

BUILDING VINERY (*Amateur*).—If you send seven postage stamps with your direction you can have "Greenhouses for the Many" free by post. It contains drawings and directions for erecting such a structure as you require, and others still more cheap.

OAK TREE BLEEDING (*A Constant Subscriber*).—The constant oozing from the wound in your ornamental Oak probably arises from an ulcerated wound of the albumen. We should remove the bark over the wound down to the albumen, and, if that appeared bruised or decayed, cut it away until we came to sound wood. A very sharp chisel or gouge should be used, so that the edges of the wound might be smooth. The edges of the bark should be also pared very smooth, and then the whole wound filled and covered with a plaster of equal parts clay and cow-dung. If the internal wound is very extensive it will be useless to cut away any of the wood, and we should merely apply the plaster to exclude the rain and air.

CATERPILLAR OF DEATH'S-HEAD MOTH (*A Young Entomologist*).—Your description is not sufficient for us to identify it. If the sides and under the head were green, seven oblique, lateral, violet stripes on it, the spiracles black, edged with white, horn yellowish, rough, turned backwards and recurved, it was the caterpillar of that moth. The chrysalis will not give birth to a moth before next July. Kept in the earth under a hand-light, or in a box of earth in-doors under a bell-glass will do. The caterpillars feed on the leaves of the Potato, Jasminae, and "Tea tree" (*Lyrium afrum*).

LATE CUTTINGS OF GERANIUMS (*W. B. W.*).—Placing them on a mild hotbed would much encourage their rooting, if the atmosphere be kept dry or not so close as to cause them to damp off. Though by this means a greater number would root, yet they may be placed in a cold greenhouse, from which frost is excluded, fully exposing them to light, and keeping the soil dry rather than wet; they will there strike in about six weeks. The greatest obstacle in the way of striking Geraniums at this season is damp. In whatever position the cuttings are placed they cannot have too much light and air.



**WINTERING OLD BEDDING GERANIUMS (W. B. W.).**—We practise three plans or methods with ours. 1st. Any kinds of which we are short of stock we take up before frost, reduce the roots a little to make them go into the pots, pick off the old, yellow, and a few of the largest, leaves, and put the plants in pots proportionate to their size. This we do with all kinds of variegated Geraniums, and never shorten the shoots at all, being content with removing any straggling growth. The plants are potted in maiden loam, the top spit of a pasture without any admixture of leaf-mould or other ingredient, unless the soil be strong, when we add sand to make it a sandy loam. They receive a good watering after potting, and during the winter no more water than is sufficient to prevent their drying up. Placed in a dry airy house with no more fire than to keep frost out, they only need the dead leaves to be picked off. In March each plant gives a number of cuttings, which are made then as they usually are in autumn. The cuttings being inserted and placed in a mild hotbed make plants equal to autumn-struck cuttings of those kinds employed for their foliage, and of the flowering kinds for blooming in August and September. The old plants soon shoot afresh, when they are potted in a compost of turfy loam two-thirds and one-third leaf-soil, giving a pot proportionate to their size, the largest being placed in No. 1 pots. These plants are fine for cool conservatory decoration all the summer, and we employ them for circles in pannelled borders, as we find it easier to have a symmetrical circle a yard wide from one plant than were three or more employed. They also produce an effect at once by simply plunging the pots. The smallest are excellent for vases and similar purposes; those not growing then in this manner can form no idea of the fine specimens they make. 2nd. All those Geraniums which we wish to preserve, except those wanted for specimens and all the variegated class, we take up after the first frost and cut down, taking out all the old wood possible, but leaving the young shoots unshortened unless very long, when they are cut-in. These we pot, after shortening the roots, until our stock of pots is run out. We then resort to boxes, and pack the plants closely together in the same soil just moistened. The variegated class are treated in the same manner with this difference, that as we begin with them they are always potted, and the shoots are not shortened, all knife work being confined to removing straggling growths. In this way they are kept, with very little water in winter, in a light airy house secure from frost. 3rd. Those that cannot be accommodated under glass are placed close together in boxes of very sandy and half dry soil, taking off every leaf of any pretensions to the name, and then we put them in a dry place just warm enough to be free from frost, and yet so cool as not to excite growth. There they remain until the end of March, when they are placed in a frame, cool greenhouse, or vinery, and they soon become green and shoot afresh. The plan recommended by Mr. Fish so far back as 1855 is an excellent mode of keeping old plants over the winter.

**SHOOTS FOR CUTTINGS, AND COMPOST FOR GERANIUMS, &c. (A. B. C.).**—We like the moderately strong shoots—strong certainly, but not very gross, and from 4 to 6 inches in length, and always with the growing point attached. In fact it is the growing points or shoots that are available for cuttings. The extremely weak and very gross shoots are not desirable, inasmuch as the former, though they root freely, are a long time before they make strong plants, and the very strong shoots are very liable to damp off, and take up too much room in the cutting-state. For potting Geraniums, and all soft-wooded plants, we use two-thirds turfy loam and one-third well reduced leaf-mould, with a free admixture of river sand if the loam does not contain enough sand. Your gardener's using turfy loam is good, but we do not see the value of the bog soil, for Geraniums naturally do not grow in bogs. Though a little of it is no great evil, yet we think it quite unnecessary. It would be better used for Rhododendrons and other bog plants. Leaves a year old will so far from retarding growth promote it more than were they more reduced, but we prefer leaf-soil well reduced for Geraniums, as we do not care so much for a strong coarse growth as for a strong close growth likely to give abundance of bloom. The leaf-mould would certainly be better if freed of the mast of Beech and the cups of acorns; and sticks of all kinds should be rigorously excluded, for they cause funguses in the soil.

**FRUIT TREES FOR BUSH OR PYRAMID FORM (Young Amateur).**—Apples—Dessert: Melon Apple, Ribston Pippin. Kitchen: Bedfordshire Foundling, Cox's Pomona. Pears—Bonne Claireange, Beurré Bachelier, Beurré Diel, Duchesse d'Angoulême. Plums—Kitchen: Victoria, Prince Eugébert or Pond's Seedling. Dessert: Jefferson, Belgian Purple. Cherries—Monstrous Heart, Black Tartarian, Nouvelle Royale. The Apples should be worked on the paradise stock, the Pears on the quince stock. Fruit of equal size may be obtained from either bushes or pyramids.

**PROPAGATING STEPHANOTIS FLORIBUNDA (A Subscriber).**—It is propagated by cuttings of the half-ripened wood cut off immediately below a joint, short stubby shoots that grow but a few inches long being the best. These, taken off close to the blue or branch from which they spring, will have a kind of heel, which should be made quite smooth. Insert the cuttings singly in small pots to one-half their length, previously removing the leaves for that distance. For soil use very sandy peat or one-third peat and two-thirds silver sand. Let the base of the cuttings rest on the silver sand. The soil being moist only a little water will be needed to settle it about the cuttings. Place in a bottom heat of 80° or 85°, and, if the atmosphere be dry, cover with a bell-glass; if moist, and a little shaded, this is not necessary. Keep the soil just moist, and in about six weeks the cuttings will be well rooted. Gradually harden off or draw from the bottom, and, when hardened off, shift into larger pots and grow on in the stove. Cuttings are best taken off in the early part of the year if they can be had, as such strike much more freely than later in the season.

**SHRUBS FOR POTS IN FLOWER-BEDS (Chadlington).**—Andromeda floribunda, from its dwarf compact habit, and evergreen foliage, with its flowers of delightful fragrance, is of all plants the finest for the purpose. Berberis Darwinii, with handsome deep green Holly-like foliage, and golden flowers in early spring, is the second best flowering plant for beds. Then there are Box, both green and variegated; Hollies, green-leaved, and gold and silver variegated; common Yews as dwarf bushes, pyramids, and standards; the upright Irish, Weeping, Davostan, and the very distinct Taxus adpressa; Laurustains; Portugal Laurels as dwarf pyramids and standards; Common Laurels; Persea macrocarpa; Aucubas in variety; and dwarf early-blooming Rhododendrons. Among the Conifers, also, there are numerous subjects of the most graceful habit, and having foliage of different hues, which may be made available for the purpose.

**TAKING UP GOLDEN CHAIN GERANIUM (Agnes).**—Take the plant up without breaking and disturbing the roots more than can well be avoided, and remove from the roots any soil at all loose, but that closely matted with roots should not be disturbed. Any very long straggling roots may be shortened, the better to enable you to get them into pots sufficiently large to contain them properly. A six-inch pot will be large enough for a good-sized plant. It is not necessary to take the plants up with balls of earth to the roots, but they are better of a little soil adhering to these.

**PRUNING VINES (An Old Subscriber).**—You may prune the Vines immediately after the leaves fall. You should have stopped the late laterals to one joint from whence they rise, and we would do so at once. They shade the house and prevent the wood hardening. There is no necessity for keeping the house at 45° on account of the large Lemon tree at one end, unless you wish to ruin the Vines for the sake of it. It will do well if the temperature is not allowed to fall below 33°, providing it is kept moderately dry at the root, yet healthfully moist. For forcing in January the Vines should now be at rest, and be pruned next month. Your border may now be covered with a foot of dry litter, higher over the collar of the Vines, unless the border slope, so as to have the surface sloping to the front and the boards upon it. A fortnight before commencing to force, the border should be covered with hot dung, leaves, or other fermenting materials, to stimulate root-action before leaf-development takes place, and this covering should be renewed to maintain a slight heat until the sun has sufficient power to heat the border.

**DICKSONIA ANTARCTICA CULTURE (Squib).**—Your plant will lose its old fronds more or less through the winter, as it, from your statement, is now doing, the lower fronds withering and going off. They ought not, however, to wither but to die off yellow. Your syringing will only tend to aggravate the discoloration of the fronds. Syringing is not necessary at any time if a moist atmosphere is maintained. At this season dryness, rather than moisture, is essential to preserve the fronds in good condition and healthy in appearance. The air suitable for ordinary greenhouse plants will suit the Dicksonia. Discontinue syringing, though you may resort to it occasionally to free the fronds of dust. Do not water so copiously at this season as when the plant is growing more. From the present appearance of the plant we do not think you have anything to apprehend, and therefore would advise your keeping it in the tub moderately moist. If you could have it planted out in a prepared border of turfy brown peat two-thirds, and yellow loam one-third, with large pieces of sandstone in it, providing good drainage, it would in a year or two quite astonish you. A circular pit of 6 feet in diameter is not too large for this plant, and, being edged with rock stones and smaller Ferns and Mosses growing on and amongst them, it would be a pleasing feature. Six inches of cocoa refuse placed on the surface might be covered with Mosses. Hymenophyllums and Trichomanes might also be grown, they being furnished with a suitable soil, and sprinkled with water twice daily, or oftener if needed. The Dicksonia would afford them an agreeable shade without that close stagnant air found under a bell-glass. For so large a specimen the box is very much too small, it should have a larger one, or, better still, be planted out in the centre of a not very narrow house, otherwise the fronds will come in contact with the sides. We have had a plant with a head 15 feet in diameter on a stem much shorter than yours and less in diameter.

**HOT WATER PIPING REQUIRED FOR GREENHOUSE—JOINING GLAZED TILE PIPES (J. S.).**—Your proposed greenhouse, 12 feet by 9 feet—a lean-to, 2½ feet in front and 10 feet at back, will be satisfactorily heated by flow and return three-inch pipes along the front and both ends, omitting the doorway at one end. For joining the pipes first run a piece of tarred rope into the opening between the pipes pretty tightly, and then another unstranded piece of rope, but slightly twisted and untarred, drawn through some thick red lead paint, and ram this quite tight with a thick-pointed yet thin chisel, finally filling up the joints with Roman cement.

**BUILDING A CUCUMBER-HOUSE, VINERY, &c. (J. S.).**—You do not give us sufficient data to enable us to answer your questions satisfactorily. We would say 1st, that this is a very good time for putting up new houses, and if bad weather set in the painting could be deferred until spring. 2nd, If the same boiler is to heat the new houses as well as the old, would it not be well to be guided by the width of the old houses in forming the new? Your greenhouse seems to be 18 feet, which would be a great width for a Cucumber-house, but the length might be all the less. A nice Cucumber-house might be span-roofed, 12 or 14 feet wide, 5 feet high at sides, 9 feet in centre, with a bed on each side, and a pathway in the middle. These beds would hold plants in winter, and a spar shelf could be suspended over the pathway. A good lean-to Cucumber-house might be made 8 or more feet wide, 3 feet high in front, and 10 or 12 feet high behind, with bed in front, and plants trained within 15 inches of the glass. Such a house could have a stage in winter. The same remarks apply to vineries. If you tell us the plans you propose we will say which will answer best. Then, 3rd, as to the expense. If there is no wall against which to place the houses, then a span-roof will cost less at first than a lean-to, just because wood and glass are cheaper than brick and stone. If you wish, however, to keep up a high temperature, the span-roof will cost more for fuel than a lean-to enclosing the same space. 4th, In either case the cheapness of such houses will depend on having all the glass and wood fixed, except what is used for ventilators, and using largish squares of glass between the rafter sash-bars, much in the same way as Mr. Kivers employs for his orchard-houses. The size of these rafter sash-bars must depend on the length of the rafters and the width between them. If the width is 20 inches between rafter and rafter, and the length 14 feet, then the rafter should be 1½ inch thick and 4 inches deep. If only 12 or 15 inches between the sash-bars, then 3½ to 4 inches would do in depth. If the width between were from 12 to 14 inches and the length of rafter 9 feet, then 3 inches in depth would do. And lastly, if economy is your object, when the plan is decided on it will be the cheapest mode to have all the wood cut to size and planed by machinery; but whether it would be best to have a builder do all the work of building, or have it done under your own supervision by village carpenters, will depend on the circumstances of the case and the aptitude of the carpenters for such work. Generally speaking, a man knows his own business best, and much is gained by the division of labour. We do not like to specify builders; but some of our best do not care much for these fixed roofs, but prefer rafters and sashos in the usual way, and of course they must cost more. The patent metallic houses lately alluded to will be economical in the end, though costing more at first.



**VINE LEAVES TURNED YELLOW (W. E.).**—The cause is evident. Your border is rich—probably too rich—for the leaves are very large and robust; growth, consequently, was continued longer than usual, and now that the colder season prevents so abundant a supply of sap, ulceration (shanking) of the fruit-stalks and yellow blotches (not natural autumnal fading) are the consequence. If you give more air next year, and have the surface of the border covered at night during the early autumn, and in summer during cold weather and heavy rains, the evil will be avoided.

**AUCUBA BEARING BERRIES (An Old Subscriber).**—Write to Mr. Standish, Royal Nurseries, Ascot, and tell him what you require.

**FORMING A HOUSE OF OLD GLAZED LIGHTS (E. L. W.).**—The plan you propose will answer very well, and the houses will be very useful whatever the height of the side walls. The economy of your three houses thus placed side to side will be that four walls, four wall plates, and four water-spouts will do for the three houses. The two middle wall plates may be hollowed out and pitched, to receive and take off the water. If economy is the chief object, these walls may be from 84 feet in height, and if there were a double ridge-board, with space for ventilating between, the sashes could be fixed, and little or nothing in the way of rafters would be required for 10-foot-wide houses.

**GLASS FOR VINERY, &c. (J. Roberts).**—We have no doubt the specimen of glass enclosed would do very well, and especially for plant-houses, but for fruit-houses we would prefer clear glass, equally thick.

**GLAZING A VINERY (N. F. H.).**—For Vines we like clear glass best. Supposing the pipes to be close to the windows, we would prefer planting the Vines more within the house. The Vine stems should be a foot or 18 inches from the pipes if possible.

**EARLY FORCING OF STRAWBERRIES (J. B.).**—To have Strawberries ripe on the 1st of March, you would require to have nice plants in pots, the pots full of roots, and buds well swelled and ripened. Take these about the middle of the month and place on a north aspect, and keep from rains to rest the plants a little. If wet enough, and no protection be handy, turn the pots on their sides with the plants facing the north. Protect them from more than 2 or 3° of frost. About the end of November clean the plants by removing withered leaves, stir the surface soil, remove a little, add a surfacing of rich compost, and place the plants about 1 foot from the glass where you intend to force them. Be careful that the plants have no stagnant water, and especially before they are in bloom and the fruit set. The place may be a frame, a pit, or a house, but much bottom heat should be avoided, and, until the plants show bloom, the soil should be dryish rather than very damp, but not so dry as to hurt the plant. For the first fortnight do not let the artificial heat exceed 45°, in the second fortnight raise the temperature gradually to from 50° to 55°, and not above 60° until the fruit be set, when you may raise it gradually, from 5° to 10° more if you wish to hurry the fruit. With sun heat and air given early the temperature during the day may be from 10° to 15° more, and in cloudy weather from 3° to 5° above the artificial temperature.

**GRAPES SHRIVELLING (R. D. J., Jersey).**—Not knowing where the Vines are not now cultivated, how can we form any opinion of the cause of the Grapes shrivelling?

**NICKER NUTS (J. C.).**—They are produced by the Nicker tree, Guilandina Bonduc, and are powerfully tonic. We believe they may be obtained of the principal London druggists. Of the Plantain Bougies we know nothing.

**HONEYSUCKLE FOR A RUSTIC PILLAR (An Amateur).**—You could not have anything better in the way of Honeysuckle for the purpose wanted than the common one, or Woodbine. If well manured and watered, it will bloom not only in summer but through the autumn. To be sure of blooming in autumn as well as summer, and growing freely, we would prefer *Lonicera grata*, or Evergreen Honeysuckle, the leaves remaining for a part of the winter. It blooms also freely. It has not so much yellow as the common Woodbine. You give us no idea of where you live. Except in Devonshire, &c., we should hardly expect the *Clanthus* and *Passiflora* to stand out of doors with a few ashes over the roots; but considerably north of London the *Bignonia*s named, and the *Passiflora* *cerealis*, will do with little or no protection. From the midland counties northward the plants, in addition to ashes over the roots, would be better of a mat or evergreen boughs over the branches. We do not know of such a French work as you require.

**FRUIT SENT TO THE ROYAL HORTICULTURAL SOCIETY (E. S.).**—Whether your box was received, and, if so, why the fruit was not exhibited we cannot tell. You must write to the Assistant Secretary for the information.

**PEAR FOR EAST WALL (H. F. Ely).**—A large dessert Pear to be ripe by December on that aspect would be *Duchesse d'Angoulême*.

**BOOKS (R. C. P.).**—The work, so far as we are aware, has only reached a third edition.

**POTTED GERANIUMS ON A VINE BORDER (H. E.).**—The roots coming through the holes in the pots would certainly impoverish the border. Unless the pots were very close and small, and the plants large, the roots would do no great harm, but if the contrary they would prove injurious by impoverishing and shading the border.

**ROSES IN POTS (Idem).**—Place in a sheltered yet open situation, plunging the pots to the rim in coal ashes. If not yet potted this should be done at once if needful. Prune the Roses in November after the greater portion of the leaves have fallen, and place in a cold frame or pit, plunging the pots to the rim in ashes. Protect from heavy rains and severe frost; from the former by drawing on the lights, and from the latter by a covering of mats. Here they may remain until wanted for forcing. Introduce them into a cool house at first, with abundance of air and all the light practicable. Begin with a temperature of 40°, gradually increasing until 50° be attained when they are in leaf, and give a temperature 5° higher to bring them into bloom. Unless they are strong, and have well-ripened wood, the bloom will not be fine.

**POTATO DISEASE (C. Innes).**—It is due to the Fortyfolds being an earlier Potato than Regents that the disease has shown itself sooner in the former. We found our Ash-leaved Kidneys much diseased when taken up, whilst Myatt's Prolific, Jackson's Seedling, and Lapstone, taken up at the same time, were free from the disease, but we now find all equally bad.

**ICE-HOUSE (J. McL.).**—There is no book upon the subject, but if you enclose four postage stamps with your direction, and order No. 173 of our Journal, you will find in it a drawing and directions for forming an ice-house.

**THRIPS ON FERNS (Mr. T. L. Taylor).**—Choose a still or calm evening, and with the atmosphere of the fernery dry, and the fronds dry also, shut the house up closely, and fill it quite full of tobacco smoke, so that a plant cannot be seen from the outside. Syringe the plants in the morning; and, not on the same night but on the following one, fill the house again with tobacco smoke. Let the plants stand a day and then syringe. This will kill all thrrips at present existing, but it will not destroy their eggs. Watch for the reappearance of the insect, and smoke again with shag tobacco, or good tobacco paper will do. Be sure that the fronds are dry, and do not fumigate too hard, or they will become brown, and be destroyed by the smoke. Your Ferns being greenhouse kinds it is not necessary to use fire heat, except to keep the temperature at 40°, and to cause a circulation of air in damp weather. For stove Ferns the temperature should be from 50° to 55° at night. (L. L.).—The frond of *Platyloma adiantoides* or *Pteris hastata* is infested with thrrips. The insect is encouraged by a dry atmosphere, and it is most troublesome in an atmosphere too warm and too dry for the species. The first step to root out the enemy is to cut away all the worst infested fronds and burn them, and then to fumigate as above directed. Keep the house moist by sprinkling the floors, &c., twice daily, morning and evening, and fumigate whenever you find a very thin black insect beneath the white places on the fronds. You will sometimes find it on the upper side also. Do not overdo the fumigation; just fill the house with smoke, and repeat the operation on alternate nights rather than smoke too hard one night in the hope of killing the pest at once, for by doing so you may kill many of the fronds, especially of the *Adiantum* family.

**WINTERING CINCERARIA MARITIMA (Ler.).**—You may keep them over the winter in a cool dry airy part of the greenhouse, giving no more water than is sufficient to prevent their flagging. They do well under the same treatment as *Geraniums*. The tubs being well drained, and the soil light and porous, we do not think that you have anything to apprehend, only keep them in a dry, cool atmosphere, and no more than just moist at the root.

**REMOVING GREEN FIGS (C.).**—We should think your climate warm to ripen Figs on a west aspect. The reason the crop on the west was small, and that on the tree on the south aspect abundant, is that the greater warmth of the latter ripened the wood more fully. You may pick off all the fruit about half swelled, but those of less size should be carefully retained. Were you to leave all it is probable that a few might ripen a month to six weeks earlier than usual; but it often happens that they fall in spring just after the appearance of the leaves.

**BED INSIDE A GREENHOUSE (Idem).**—Your bed would look best planted with Tulips, Hyacinths, and other bulbs. You might have for instance at back a row of different kinds of early Tulips, as *Pottebakker*, white; *Belle Alliance*, *Sunbeam*, both scarlet; and double *Duc Van Thol* and *Tournefort*; and then two rows of Hyacinths, red, blue, and white, edged with Crocus, yellow, blue, and white, with a few Snowdrops, and *Scillas* to give variety. Now is the time to plant them, the earlier the better.

**POTTING WEAK YOUNG VINES (C. Innes).**—Pot them in February, shaking most of the soil from the roots, and disengage these if possible without breaking them. Use pots 9 inches in diameter, drain them well, and employ a compost of turfy loam, that from rotted turves is the best, and if cut 3 inches thick, and about half rotten or decayed, it could not be improved upon, except by mixing with it when laid up to rot one-third of manure. Pot an inch or two lower in the pot than they were the year before, and spread out the roots towards the sides of the pots. Cut the Vines down to three eyes, and when they have grown a few inches make choice of the strongest, rubbing off the others. Train this upwards to a stake, and when the laterals show stop them at the first leaf. Syringe morning and evening, and keep well supplied with water, but let the soil show signs of dryness before giving any. Upon no consideration must they be allowed to suffer from the want of it, neither will they root well if the soil be kept in a saturated condition. In June, or early in July, the roots will be matted round the sides of the pots; shift the Vines forthwith into thirteen or fifteen-inch pots, draining well, and using the soil as before. If a quart of half-inch bones were added to the soil required for each pot and mixed with it, half being placed at the bottom of the pot over the drainage, the effects on the growth would be apparent in that and the following year. If you could train the canes 15 inches from the glass all the better. Stop the laterals as before at the first joint, and at every joint after the first until the canes are 10 feet long, then take off their ends. The laterals will grow rapidly, but never heed them until the middle of September, when their length should be gradually reduced, and finally cut them away quite close early in October. Whilst growing, water at every alternate watering with weak liquid manure. After the middle of September lessen the supply of water, and discontinue it when the leaves turn yellow. Keep the Vines clear of red spider and they will bear fruit in the year after.

**NAMES OF FRUIT (J. F. R.).**—The Apple has never appeared, or if so there was no indication whence it came. (Q. S.).—Plum—Coe's Late Red. Apples—1 and 4, Hollandbury; 3, Keswick Codlin; 5, Shepherd's Seedling; 7, Ord's Apple. (J. Hall).—1, Louise Bonne of Jersey; 2 and 3, Beurré Diel; 5, Althorp Crassane; 6, Beurré de Capiaumont. (W. N.).—1 and 6, Beurré Bosc; 2, 8, and 5, Dunelows's Seedling; 4, Blenheim Pippin. Glon Moreau, Knight's Monarch, Easter Beurré, Beurré de Rance, Ne plus Meuris, and Josephine de Malines grown as pyramids, and Passe Colmar on a wall if the situation is much exposed. (J. J. B.).—2, Beurré Gris d'Hiver; 4, Calchasse; 5, Brown Beurré; 7, Gansel's Bergamot; 8, like Beurré Bennet; 9, Easter Beurré; 10, Van Moes Léon le Clere; 11, Comte de Lamy; 13, Louise Bonne of Jersey. (Mr. Watson).—Flemish Beauty. (G. H.).—Holland Pippin.

**NAMES OF PLANTS (W. G. B.).**—We cannot undertake to name plants from leaves only. (*Aethaea*).—It is *Asplenium bulbiferum*, an Australian and New Zealand Fern. (*A Keatish Man*).—1, *Pteris serrulata*; 2, *Cyrtomium falcatum*; 3, *Scelaginella pubescens*; 4, *Doodia caudata*; 5, *Adiantum pubescens*; 6, *Pteris hastata*; 7, *P. longifolia*; 8, *Asplenium eburnum*. (*A Constant Subscriber*).—*Athyrium Filix-ferma*, *Blechnum occidentale* var. This will not survive the winter out of doors. (W. F.).—*Onychium lucidum*.



## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 14th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 8	29.500	29.377	70	43	56	56	S.E.	.14	Heavy rain at 6 A.M.; hazy; overcast at night.
Mon. . . 9	29.384	29.283	72	43	57½	57	S.E.	.79	Showery throughout the day; heavy rain at night.
Tues. . 10	29.298	29.253	66	51	57	56	S.W.	.58	Foggy; cloudy; frequent heavy showers; warm at night.
Wed. . 11	29.283	29.190	64	48	57	59	S.W.	.10	Partially overcast; heavy clouds; sunshine and showers alternately.
Thurs. 12	29.520	29.437	64	27	54	57	S.W.	.00	Fine; rather windy; fine; frosty at night.
Fri. . . 13	29.732	29.600	63	32	57	56	S.W.	.00	Foggy; fine; masses of dusky white clouds; at freezing.
Sat. . . 14	29.906	29.808	56	42	56	56	N.W.	.04	Slight fog; overcast; rain at night.
Mean..	29.517	29.434	65.00	40.85	56.35	56.71	....	1.65	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

## BETTER SUPPLIES FROM THE POULTRY-YARD.

We left off before with advice to poultry-keepers to be followed in the event of the appearance of a poultry pest. Let us hope the change in the weather will avert all such visitations. We must not, however, forget to use every possible means to increase our stock, and to make it as profitable in every way as may be. Day after day the newspapers seem to be casting about for something to add to the stock of food. It seems to be almost an accepted fact with many, that the day is not far distant when it will not be a question of price about the supply of meat, but when there will not be enough for all. Is the problem of the clever French writer and statistician being realised? He affirms that every human being during his life takes from the earth more than he returns to it; that Europe has arrived at the acme of production, and must perforce remain stationary, while population hourly increases. He points to the sea as a resource. So much the better for all but the fishes. We wish to point to poultry, to increase the present supply, and to make that which we have more valuable as food. The first step towards getting fowls is to have eggs, and the greatest increase in poultry will be to have chickens and eggs all the year round, instead of having them only in the natural season. The next will be by means of cookery to make that which we have capable of feeding more people. A hen is a benefactress, because she is continually providing food in a most delicate and delicious form, without losing any of her own valuable properties except youth. A pullet lays her first egg when she attains a certain age, let that happen when it may; but after the first laying she falls into the beaten track and lays only at the natural time. In order, then, to have chickens all the year round, we must have a succession of pullets to lay the eggs that are to produce them, and as sitting-hens are often vainly wished for in winter, we must adopt the best substitute we can in the way of hatching-machines, which are now coming before the public in "such a questionable shape," that we expect to find them in general use and duly appreciated. But if our supply is to be derived from pullets only, and they are to be discarded when they have reared their first brood, we shall have kept them till they have passed from chickens to hens, and are supposed to be too hard for the table. They are so, if we confine ourselves to the old heresy that there are only two ways of dressing food, roasting and boiling; but it is here that cookery is valuable. The fowl that has done laying, or that from any cause is apparently useless, may be made to provide a savoury dish. The old cock or hen put down to the fire, or into the pot for the proper time, only becomes harder; but there are other ways of making them valuable and wholesome food. Take, for instance, the French *pot-au-feu*, that national comfort known to every woman from the top to the bottom of the social ladder. The old hen is here the chief ingredient, she contributes strength and flavour. Instead of being thrown in whole, and boiled as if for dear life, she is cut up into small joints and allowed to simmer for many hours, till her flesh has become soft and tender, and, leaving the bones, passes into pulpy food. For delicacy of flavour, and for much of its strength, the *pot-au-feu* is indebted to poultry; not only that which forms a fowl when it comes on the table, but every other eatable part—the neck, head, gizzard, liver, heart, and the feet. These in France are bought by the "easy" classes who live on their incomes. In large towns and in the metropolis of England, they are bought by the lower classes

only, who for a few pence get enough for a copious and savoury family meal.

That terrible roast and boil, and the dislike to what some persist in calling "messes," have a great deal to answer for. They contrive to make the largest quantity of meat do the least possible service in feeding. That "pot on the fire," always there, is the receptacle for all that is eatable—the broken bones of all sorts; the scanty cheap piece of coarse beef cut up in small square morsels; the carrots, turnips, leeks, and potatoes; where meat is scarce, a little piece of dripping; in the spring when peas are first in pod, a dozen pods put in for flavour, run through with a needle and thread, that they may be easily removed. We are speaking now of a cottager's cookery. The fire consists merely of the embers of wood, or the ashes of peat and turf, so that the pot may remain without fear of boiling; a slight steam escapes from the partially open lid, but as the hour of dinner arrives, and the husband is expected, the lid is at times removed and the fragrant smell of the contents diffuses itself about the kitchen. This must be, and it is a better meal for the family than the little piece of coarse beef, affording scarcely a mouthful to each. It is the difference between England and France in cottage cookery. But some may not like soups, and will ask [us what is to be done with the old hen or the cock. We have told them before, and we will repeat it. Cut the fowl up in joints, dividing at the joints that there be no splinters of bone. Gather together all the scraps of meat you have, those that adhere to the bones, odd pieces of ham or bacon, knuckle, or leg, or shoulder of mutton; cut a few slices of fat bacon and bread; get an earthen vessel with an earthen cover, of course having a small hole in it; at the bottom of the vessel lay a layer of bread, then one of bacon, and then begin to fill in with all the scraps and joints you have—nothing is too common that is sweet and clean. Go on in this way till the vessel is full. Fill up the hollow places with water, put on the lid, and tie it down. Let it be put at night in a slack oven, and remain there till the morning. Stand it in a cold place, and when thoroughly cooled eat it for dinner, breakfast, luncheon, or supper. You will find it tender, succulent, and savoury. The water that was poured in is become jelly, and the whole will cut out like brawn or red-coloured marble. In any other way the old fowl would have done little; but this is not working man's cookery.

## POULTRY SHOWS IN THE OPEN AIR—MR. HEWITT FOR BIRMINGHAM.

I HAVE only just now noticed a letter in your Journal of August 29th from our eminent poultry Judge, Edward Hewitt, Esq.; and as it contains, like the majority of his valuable letters, so many important matters in reference to poultry shows, I cannot let it pass without giving my endorsement to the truth of his remarks.

For some weeks past I have been so thoroughly engaged with other matters than poultry that your valuable Journals have been reluctantly neglected; but now the pressure of business is over, the shortness of the days rapidly encroaching, and the length of the evenings daily extending, it affords me, like many others, greater scope for reading, and the past Numbers of your Journal were with me, as with any other man who feels the interest in poultry which I do, the first periodical to be read.

I must say whenever I see a letter in your Journal from Mr. Edward Hewitt, it acts with me as the tip from the training-stables does on a racing or betting-man—he has his eyes opened to what is going on at head-quarters, and similarly Mr. Hewitt's



letters open my eyes to poultry matters, and what is going on at a distance. Mr. Hewitt's remarks are found by long experience to be truthful, and full of sound good advice. I, with many other poultry amateurs, feel that we are much indebted to him. Again, referring to Mr. Hewitt's letter, I have had so many valuable birds that suffered from such exposure at the shows he refers to, that I have quite made up my mind never to send to any show that does not provide covering to shelter the birds from rain and sun. At one show recently held, my birds, which had gained the first honours at a show only the previous week, were unnoticed, and the cock bird, a very valuable one, has since died. I well recollect the Cochon cock of the late Mr. Guldard, and the facts referred to by Mr. Hewitt, and I think those who would have their shows successful must act upon the useful hints given by him, otherwise such shows will fall to the ground. If we carefully examine the list of poultry shows that take place during the year, we find that there are a great many that have been established for many years, and which are regularly held every year. These shows are known to be well managed, are held in large rooms, or spacious marquees, and every possible attention is bestowed upon the birds, and they pay well, from the simple fact that exhibitors know that their stock will be taken care of. Let others follow their example, and doubtless their success will be equal.

Before concluding, there is one important matter I wish to refer to—the most important I think of all that concerns poultry exhibitors just now—Are we to have the assistance of Mr. Hewitt as one of the Judges at our next Birmingham Show? Exhibitors should not let this matter rest, for in a very few weeks it will be “yes” or “no,” and I do trust every exhibitor, who feels an interest in this important question, will do as I have done—address a letter to the Council, praying of them to add Mr. Hewitt's name to the list of Judges. It is something lamentable to think of that one of our very best and most honourable Judges should be excluded from the list. I trust it may not be so, or I feel sure it will prevent many from exhibiting.—AN OLD EXHIBITOR.

### CALNE POULTRY AND PIGEON SHOW.

WHEN an essayist of a past generation once wished to describe a man living in a very out-of-the-way part of England, he said of him that he lived “at Calne in Wiltshire.” If this were true then, which I much doubt, it is true no longer, for straight up to the town runs the railway. But was it ever true? Calne nestled in the last century, as in this, under the shadow of Bowood; and happily in England, every great noble's residence is a centre of light and intelligence to a surrounding district, and more particularly to that nobleman's borough. This was especially true of the late and great Lord Lansdowne, who drew around him at Bowood prose writers, poets, artists, and men of eminence in the literary and scientific world; and as to Calne, through him it had for its representative in Parliament at one time Lord Macaulay, and now has one who stands in the front rank of statesmen, the eloquent and sagacious Robert Lowe. Last week, while journeying thither in company with many a lover of flowers and birds, I noticed in the same carriage a clergyman intently reading “our Journal.” I inwardly blessed that good man. I felt towards him a degree of kindness I can scarcely express. Once arrived, I walked into the town; and although Calne cannot be said to be a remarkably pretty place, as the streets are very narrow, and some long as well, yet as I descended the hill from the station, with the whole town lying beneath me, and the fine tower of its old church, recently restored, standing out against the blue sky, I could not allow the truth of an old couplet I once heard which spoke of Calne as “ugly.”

I had no need to inquire where the Show was held, for tents, and flags, and music on a hill to the left plainly indicated its whereabouts. Meanwhile, to amuse and instruct myself, I take out of my pocket the announcement and schedule of the Show, which had been kindly sent to me. I scan the list of patronesses and patrons. Well, little Calne, thou art indeed honoured! Here are supporters for a show indeed!—a Marquis and a Marchioness, the High Sheriff of Wilts, a Right Honourable, admirals, “colonels, and captains, and men at arms,” and half a dozen squires and squires. Calne, thou owest much to thy proximity to Bowood.

The Show was held in the grounds of Col. Ward, the popular Commander of the Wilts Volunteers, and very suitable grounds they are for such a purpose. First came a tent with fruits

and vegetables, but I will not say a word about them—I cut the first part of “our Journal” this week; then a long tent of flowers and floral devices, but I pass them by without remark for the same reason, and hasten on to the poultry and Pigeons. It should have been called a Pigeon and poultry show, for the Pigeons were far better than the cocks and hens. Many and liberal prizes had been offered, an earnest Pigeon fancier lives in the town, and so, in truth, the show of Pigeons was most excellent. It has seldom been my lot to see such first-rate birds brought together—indeed, I had a thorough treat. There were nearly a hundred pens. I will take them in order. First, Carriers (Black, best cock).—First prize, Mr. Else, a truly beautiful bird of the old substantial sort. Next, Carriers (Black, best hen).—Mr. Else first and second. Then Carriers (Dun, best cock).—First, Mr. Yardley and Mr. Else. Carriers (Dun, best hen).—Again Mr. Else first and second, the first a most excellent bird. I exclaim, What Else? Why, nothing but Else? Carriers (Any other colour, best cock).—Massey and Ord prize-takers. Carriers (Any other colour, best hen).—Again Massey and Ord. Among all the Carriers shown I noticed only one inferior bird. Next came Powters; and among the exhibitors the two neighbouring fanciers, Mr. A. Heath, of Calne, and Mr. Fox, of Devizes, bore off a good share of the prizes. I do not give all the names, as the complete prize list appeared last week.

I now came to the pretty little Tumblers. The Almonds were extraordinarily numerous, considering we have not, alas! any Almond fanciers in this district. Again Mr. Else was triumphant with beaks and heads that filled a fancier with delight. Among the “Any other variety of Tumblers” was a pen, the first prize—Else, nought but Else—of Black Mottles, which I considered the gems of the whole Show. I repeated my visit to that pair again and again. There was also one pair of Short-faced Blue Beards, a bird not often seen. Beards! “Little cut-throats,” as I heard somebody call them.

Turbits and Owls came next, and wonderfully soft-feathered and beautiful they were. Then followed Jacobins and Trunnpeters, then Barbs and Nuns. I regretted not to see more than one pair of Barbs, and those not black, which is surely the best colour. The first-prize Fantails drew forth warm commendations from Fan-lovers; indeed, their tails were over their heads. The poor birds looked exceedingly uncomfortable, but quite prepared for a shower of rain with their feathered umbrellas.

But I must linger a little over the last class, entitled, “Any other variety, the best pair.” There were fourteen pens of them, and almost all first-rate. Mr. Yardley's Spots were the best I have ever seen, and well worthy of being painted. Singular to say, there were three pairs of Swallows, and all good; one took third prize—Mr. Percival's. Nor must I omit to notice the same gentleman's pair of Blue Dragons, which were excellent. While looking at the Pigeons an incident befell me of scarce an alarming, but certainly of a startling, character. The same clergyman, the worthy reader of “our Journal,” entered into conversation with me, and suddenly said—perhaps he had noticed I was marking the catalogue—“I wonder whether you are ‘WILTSHIRE RECTOR.’ I think you are.” I looked straight at the pens, trying, like the First Napoleon, to divest my face of all expression, as if I had never even heard of “WILTSHIRE RECTOR.” That clergyman being unable to make anything of my (I flatter myself) Sphynx-like inscrutable gaze, being a man of this world as well as the next, then looked at Mrs. “WILTSHIRE RECTOR;” and by a smile in that quarter I was undone, revealed, and all hope of secrecy was at an end. However, there is no need of regretting, for I made a most agreeable acquaintance, to be ripened by a visit proposed and accepted.

Leaving the Pigeons, I turn back and cross the grounds to the poultry tent. In Spanish Mr. Heath was triumphant, getting the £5 prize for persons residing in the Calne union, and first and second for Spanish chickens. The Brahmas mastered strongly, including chickens. A promising pen of the latter belonging to Mr. Hinton took a prize; and Mr. Pares was first and second with Light Brahmas, heavy into the bargain. N.B.—These large fowls were all placed high up, so one saw little more than their legs and breasts. This is a mistake. All large birds should be at the bottom, then smaller and smaller according to height.—The number of Game Bantams, all Black-breasted Reds, formed quite a feature, and lovely some of the tiny pets were, particularly the first-prize pen belonging to Mr. Cambridge, and the prize cock (sweepstakes) owned by the Rev. A. K. Cornwall. The Hamburgs were



only fair, Black Bantams and Sebrights few and not over-good. The chickens of 1865 were promising; among them Miss Milward's Buff Cochins and Mr. Gardener's White both took prizes. Mr. Hinton's Malay chickens were declared A1 among the Any variety.

In conclusion I will make a remark or two which must not be misunderstood. I write to cause improvement, not from love of fault-finding. On the first day there was a sad want of celerity—not until nearly four o'clock were the prize cards nailed on the pens; and when I entered the Show at past one o'clock, one tent was then only in the act of being reared. I understand there was a paid Secretary, hence less excuse. These and other delays were vexatious and confusing—vexatious to exhibitors and confusing to the public. The size of the pens was also not the thing: the poor Turkeys were crushed and the Geese crowded, and the larger Ducks had scarcely room. Let me indulge the hope that next time nothing so unfortunate will occur. May I see next year as pretty but a better arranged Show at Calne. I cannot bear to find fault, and I hope what I have said will be taken kindly.—WILTSHIRE RECTOR.

## THE LONG SUTTON (LINCOLNSHIRE) POULTRY SHOW.

This show of poultry, numbering nearly three hundred pens, took place in a very large and commodious tent, erected for the purpose on the grounds of H. Anderson, Esq., and being closely adjacent to the principal hotels of Long Sutton, it was easily accessible to every one. The arrangements of the Committee were, undoubtedly, good, and when another line of railway (now being made) is completed, no doubt a great accession of entries will immediately ensue, as the greatest drawback is the difficulty of speedy railway transit to and from Long Sutton on the present line. The early morning of October 11th did not augur favourably for fine weather. It rained, however, only at intervals, and as most persons hope for the best, it was thought by many that it would all clear off, and the result would be a fine day. With occasional rainfall, and a watery sun, the morning passed by, but about 2 P.M., a very severe, though happily brief, thunderstorm took place, the rain being excessively heavy, and the peals of thunder directly in the zenith. All things exposed to its fury, of course, were quickly drenched through, though happily for the poultry and Pigeons, no less than the visitors themselves, the tent proved a perfect protection to everything, affording an additional proof that all poultry penned for exhibition should be provided with shelter against sudden stress of weather. Had efficient protection not been in this instance provided, no doubt numbers of pens of the most valuable exhibition poultry in the kingdom would have been ruined beyond recovery, though as it was, not a moment's suffering occurred to a single bird.

Though several pens of good Grey *Dorkings* were exhibited, the collection, both old and chickens, was not equal to our expectations. Most of the *Spanish* shown were excellent, but the small number of *Game* fowls entered was the subject of general remark. It is said "the surrounding district is not favourable to them." Why this should be so, it appears impossible to say, as *Game* fowls are famous for their extreme hardiness. The *Cochins* were very good, but most of those shown were still heavily moulting; the present season seems especially unfavourable for speedy moulting; in fact, many exhibitors complain that their adult birds will even yet be a month or more before they be in perfect exhibition trim. In Buff *Cochins*, the Long Sutton Show proved excellent, the first-prize birds in this class taking the silver cup, also, as given for the best pen of poultry of any kind exhibited, without restriction as to breed. A marvellous pen of Cambridge *Turkeys* were in close competition for this much-coveted premium. With the exception of one pen of Partridge-coloured *Cochins*, and a very excellent White adult cock, the latter, unfortunately, shown without hens, to his "disqualification," no other really good varieties of *Cochins* competed. The Spangled *Hamburghs* far surpassed the Pencilled ones, but the entries of *Hamburghs* were limited to but a few pens. The *Polands* shown were very superior. The *Game Bantam* class was good, but many of the birds were still scarcely recovered from moulting. A pen of excellent Gold-laced *Sebrights* were the winners in the variety Bantam class. The *Turkeys* shown by Mr. Smith, of Breeder Hills, Grantham, fully maintained that gentleman's high reputation as to *Turkeys*, and when we hint to *Turkey* breeders, that a single pen weighed nearly 50 lbs., it proves beyond question, that at our later shows such weighty antagonists will require much heating. The class for "Any other variety" of poultry contained nothing of great note, though a pen of "hybrids" (as stated by the exhibitor, "a cross between a Pheasant and *Game Bantam*") proved actually simply *Bantams*, without the slightest pretension to a cross of any kind.

In *Geese*, some very good ones were shown, the so-called "Lincoln breed" proved not very truly-bred *Emdens*. A pen of *Ducks* also, entered as "*Spanish Ducks*," turned out to be simply *Muscovies*. Few breeders, we fancy, will, therefore, adopt the new nomenclature attempted by some owners at Long Sutton. Some very first-class *Aylesburys*, and also *Rouen Ducks* were shown.

The show of *Pigeons* was remarkably good, their excellence being very far beyond that of even many of our largest exhibitions. Many good pens of birds were, however, almost a mass of pen feather, and the remark was general, that the reproduction of feather on fancy *Pigeons* has this season proved unusually difficult, arising, most probably, from the long succession of dry weather. The silver cup for the best pen of *Pigeons* shown, was allotted to a splendid pair of black *Carriers*. The class of *Barbs* was an unusually good one, though not a few pens were shown in fearfully dirty feather, whilst tolerable cleanliness is indispensably required. A pen in this class were labouring under severe and highly contagious disease, but we are glad to say they proved the only diseased birds in the whole show. The classes for *Jacobins*, and the variety classes, proved especially good.

The efforts of the Long Sutton Committee to insure success, have thus met with a hearty response from amateurs generally, a result fully deserved, and obtained by much personal self-denial. The silver cups offered at future meetings, it is said, will be more numerous than at present, and it is but just to record, that the cups given this year very fully represented their money value, a feature of which we could not by any means speak so favourably at many shows of much higher pretensions. The poultry were very carefully managed, and not a single mishap occurred to any of them.

**DORKINGS** (Any colour).—First, T. Tatham, Kingsthorpe, Northampton (Grey). Second, H. Lingwood, Needham Market, Suffolk. *Chickens*.—First, J. Smith, Breeder Hills, Grantham. Second, J. A. Clarke, Sutton Marsh (Coloured). Highly Commended, W. H. Robson, North Reston, Louth (Coloured); T. Tatham; H. Lingwood; J. White, Warlaby, Northallerton, Yorkshire. Commended, J. H. Ivimy, Small Bridge, Rochdale.

**SPANISH**.—First, H. Beldon, Gilstead, Bingley, Yorkshire. Second, E. Brown, Albert House, Sheffield. Highly Commended, J. G. Hobson, Curlew Lodge, Sutton Marsh.

**GAME** (Black-breasted and other Reds).—First, J. Smith. Second, Messrs. McConnell & Bagshaw, Uttoxeter (Black Red).

**GAME** (Any other variety).—First, J. Frith, Lily Lane Mills, Halifax. Second, Miss H. G. Kemp, Fleet, Lincolnshire (Black).

**COCHIN-CHINA** (Buff).—First and Cup, H. Tomlinson, Birmingham. Second, T. Tatham. Commended, H. Lingwood; H. Beldon.

**COCHIN-CHINA** (Any other variety).—First, R. J. Wood, Brinsell Hall, Chorley, Lancashire (Partridge). Second, Withheld.

**HAMBURGH** (Golden-spangled).—First, P. Hutchinson, Spalding. Second, A. K. Wood, Burnside near Kendal. Highly Commended, I. F. Loversidge, Newark, Notts.

**HAMBURGH** (Any other variety).—First, A. K. Wood. Second, T. J. Saltmarsh, Chelmsford, Essex (Silver-pencilled). Commended, A. K. Wood.

**POLANDS**.—First and Second, H. Beldon.

**BANTAMS** (Game).—First, J. Smith. Second, T. C. Harrison, Hull. Commended, O. E. Cresswell, Hanworth Rectory, Hounslow, Middlesex (Black Red).

**BANTAMS** (Any other variety).—First, G. Manning, Springfield, Essex (Golden Sebright). Second, H. Beldon. Highly Commended, H. Draycott, Hummerstone, Leicester (White). Commended, H. E. Emberlin, Hummerstone, Leicester (White).

**ANY OTHER VARIETY**.—First, E. Sheerman, Chelmsford (Brahma Pootra). Second, Messrs. McConnell & Bagshaw, Uttoxeter (Brahma Pootra).

**TURKEYS**.—First, J. Smith. Second, Mrs. Harris, Sutton St. James (Cambridge). Highly Commended, Mrs. Harris (Cambridge).

**DUCKS** (Any variety).—First, Mrs. J. M. Dring, Long Sutton. Second, H. Beldon. Highly Commended, J. G. Hobson; R. Tate, Green Road, Leeds. Commended, J. A. Clarke, Sutton Marsh (Rouen); Mrs. J. Clarke, Old Bank House, Long Sutton (Aylesbury); Miss L. Folley, Long Sutton (Spanish); E. Gee, Wisbech Fen (Black); H. Snushall, Gedney (Black East Indian).

**GEES** (Any variety).—First, J. B. Bailey, Kingsthorpe, St. Edmunds. Second, S. Vincent, Clenchwarton. Highly Commended, Mrs. Harris, Sutton St. James (Lincoln).

**SELLING CLASS**.—First, J. G. Hobson (Dorkings). Second, W. Massey, Fulford, York (Cochin-China). Highly Commended, E. Sheerman, (Brahma Pootra); H. E. Emberlin (Golden-spangled *Hamburghs*). Commended, G. Manning (Black Red *Game Bantams*); H. Beldon; R. Tate, Leeds (Bantams); J. A. Clarke.

## PIGEONS.

**CARRIERS** (Any colour).—First, Second and Cup, T. Colley, Sheffield. Highly Commended, H. Yardley, Birmingham; J. Beaver, Cross Lane Salford, Manchester. Commended, H. Beldon.

**POWTERS** (Any colour).—First, J. Beaver. Second, H. Wade, Laurel Cottage, Birmingham. Highly Commended, H. E. Emberlin; C. Cole, Hartley's Buildings, Bowling near Bradford; J. Beaver. Commended, H. Yardley.

**TUMBLERS** (Short-faced).—First, H. Yardley. Second, E. Brown. Highly Commended, H. Yardley; J. Beaver. Commended, J. Percival, Cleut Villa, Harborne, Birmingham (Almond).

**BANDS** (Any colour).—First, J. Thackray, York. Second, W. Massey, York (Black). Highly Commended, E. Brown; J. Beaver. Commended, H. Yardley; H. Beldon.

**JACOBS** (Any colour).—First, H. Yardley. Second, I. I. H. Stockall, Broad Green, near Liverpool. Highly Commended, T. Young, Eyre Arms Hotel, St. John's Wood London; J. Percival, Commended, T. Thackray; T. Rule, Durham (Red); G. Woodley.

**ANY OTHER VARIETY**.—First, H. Yardley. Second, J. Thackray (Swallows). Extra Second, J. Beaver. Highly Commended, P. Hutchinson (Silver Roats); H. E. Emberlin (Maggies); T. Rule (Mottled and Black Trumpeters); J. Percival (Dragons); W. Massey (Blue Dragons); H. Yardley; J. Percival, Peckham (Archangels). Commended, T. Young (Fantails); H. Snushall, Gedney (Black-headed Nuns); I. I. H. Stockall.

**SELLING CLASS** (Any variety).—First, W. Massey (Black Barbs). Second, H. E. Emberlin (Powters). Highly Commended, J. Percival (Swallows); H. Snushall, Gedney (Red Pied Powters). Commended J. Thackray (Turbits); E. Massey (Blue Dragons).

**RABBITS**.—First, Miss J. Fletcher, Long Sutton. Second, G. Needham, Lutton Garsgate. Highly Commended, W. Jeffrey, Long Sutton; Z.



Woodward, Kirton. Commended, Master W. Dring, Sutton Marsh; Mrs. Grainger, Sutton Marsh; R. Bush (Spanish).

The Arbitrator appointed was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, near Birmingham.

## SUNFLOWER SEED FOR PHEASANTS AND POULTRY.

SEEING in your Letter Box an answer to a correspondent about sunflower seed for poultry, I send you a short account of how it succeeds with me.

I have this year grown a large quantity, as an experiment, for food for Pheasants, and I find they are most greedy after it. It is quite impossible to keep them away from the place in the garden where I have laid the sunflower heads to dry; as many as thirty are sometimes among them in the morning.

When I give the seed to Pheasants I only lay the heads along different paths in the woods, and leave the Pheasants to pick out the seeds, which they find great amusement in doing. If your correspondent were to give them in the same way to his poultry doubtless they would eat the seeds.—A MAN OF KENT.

## THE HUMBLE PETITION OF EXHIBITED TURKEYS

TO ALL POULTRY SHOW COMMITTEES.

We hope that you will pardon us for intruding upon you; but on the eve of the poultry-show season we earnestly implore your attention to one complaint. We feel emboldened by the success attendant upon former suggestions, when the Bath and West of England Society enlarged their Turkey pens. Well would it have been for us had the Committee of the late Poultry Show at Calne followed so good an example. But alas! our miserable enclosures there, in a full sun, were a "cruelty to animals;" and bitter were the laments of our owners that our beautiful plumage, just moulted out, would be effectually ruined for any future exhibition. We envied the useless heights of the Pigeon pens at that Show, to which none of the officials were tall enough to affix the commendatory cards! and we would humbly suggest that committees should consign the construction of their pens to some one versed in the rules of proportion. Then may we hope that our majestic forms will not only have room for comfort but for display.—THE TURKEY PRISONERS AT CALNE.

## BEE-KEEPING IN YORKSHIRE.

HAVING lately returned from a tour through the East Riding of Yorkshire, including the Pickering Valley, which is a noted bee-country, perhaps some readers of "our Journal" may like to know how they manage matters in that quarter. The season of 1865 has not been very satisfactory, the complaint being that no good has been done since the early part of July. As regards the heather, the season could hardly have been worse, many hives returning as light as they went. I lifted hives which had just come back from the moors, and others on the same stand that had remained at home, and there was but little to choose between them. The bean-blossom is the chief dependence of the bee-keepers in the summer time, there being very little white clover grown in the district, while beans are a very extensive crop. A swarm which came off just as the flower was at its prime, had filled the skep with comb, and was accordingly eked in ten days after swarming. This, and some other examples of the kind, would seem to indicate a very favorable country; but the universal statement was that the heather furnished the principal harvest. I did not meet with a single exception to this remark, or I should have been disposed to question its correctness. The land is good; a fair proportion of it is under grass; there is abundance of fruit, and a still greater abundance of wood, in fact, every apparent indication of a good honey country; nevertheless, hives are scarcely ever fit to "take" unless sent to the heather. Things are managed in the old-fashioned style—bell-shaped hives on stone slabs. The only novelty I could discover, and the fame of which was spread far and wide, was an ornamental hive, standing in a garden in solitary state. It is an accurate model of the neighbouring hall, every stone in the walls, and each slate on the roof being distinctly marked, the patterns of the chimney-pots likewise. The front door is panelled, and neatly painted in imitation of mahogany. It has a brass handle, and

wants nothing but a brass knocker (at which the pollen-bearers might knock, and which the nurses might open). The door is about 4 inches wide, and is left rather short to form an entrance for the bees, the opening looking like a splashboard to keep off the rain. This miniature hall ought to have stood in a miniature garden, instead of which it is placed on the summit of a rockery, the rockwork consisting of glittering white spar. By way of heightening the incongruity, it is covered like a chair of state by a royal canopy of crimson and gold, sustained on pillars of blue and gold, a Prince of Wales's feather surmounting the whole. The only sensible thing about it is that when unlocked the whole front of the house comes away, and shows a glass window behind it the full size of the hive. The hives stand rather thickly on the ground, and some of the better class of cottagers will have as many as twenty or thirty, in a few cases even more, though the average is from six to ten. The general practice is to let a stock hive stand as it is until the drones are killed off, and then eke and send to the moors. Swarms are eked as they fill up, and so remain through the winter. You may frequently see hives of the second year with three and even four ekes, and standing half a yard high or more. They reckon that unless a hive weighs three stone it is not worth taking, while four and even five stone are not uncommon weights; but the honey is coarse, and very different from what is obtained in this neighbourhood. Nearly the whole of it is run before being sent to market; but here and there is a travelling workman who has added honey-dealing to his other callings, and who buys a score of hives, and after sulphuring the bees takes the hives with him just as they are, and disposes of the honey in the comb. Doubtless, with better management, much better results might be obtained. It is impossible to look at the country and not be satisfied of this; but although the bee-keepers generally are a fine set of fellows, good-natured, frank, and hearty, they have no liking for new-fangled ways, and they prefer in these matters primitive simplicity. The only innovation on the traditions of their fathers respecting bees was "to mesmerise 'em a bit," fungus being the mesmeric agent; but this was only another way to destroy them without injuring the honey, as the bees thus stupified are never added to another stock. Nobody was willing to be convinced that wood was better than stone, or that bees should be furnished with water in the spring. Super honey was a grand thing, and a man once got some in a straw cap; but if they began meddling with new fashions they would, may be, do very badly. Such seemed to be the prevailing idea; but I shall always have pleasant recollections of the men themselves, and the picturesque, often romantic nooks, in which some of them have their homes.—F. H. WEST, *Potternewton, near Leeds.*

## REMOVING BEES TO A SHORT DISTANCE.

HAVING taken a house, situated about 600 yards from the one I at present occupy, the removal of my bees demanded a little consideration. An intermediate trip with nine frame hives with covers, stands, &c., would have involved a good deal of trouble, independently of the difficulty of finding suitable quarters for their temporary accommodation. After some deliberation I resolved to try the following plan with one hive:—The entrance was closed in the evening with a slip of perforated zinc, and the bung having been removed from the crown-board, a piece of perforated zinc was fastened over the aperture to confine the bees, but ensure sufficient ventilation. On the following morning the hive was carried to its new site, and a circular feeding-trough with a float, containing about a pint of syrup, was placed upon the perforated zinc, closing the aperture in the crown-board; the zinc was then withdrawn, and the bees were permitted to enter the feeder. The entrance of the hive was kept closed until a good deal of excitement prevailed; but when the trough was well filled with bees, and the excitement of feeding had pervaded the whole community, the slide closing the entrance was removed. The bees at once rushed out most tumultuously, but under the combined influence of feeding and confinement, carefully noted the change which had been made in their locality, and very few returned to their old quarters. I subsequently removed the remainder of my stocks (one or two at a time) in the same way, with most complete success, in some cases scarcely a bee returning to the old garden.—J. E. B.

P.S.—On Sunday I discovered that a cottager's hive, which had sent out two swarms in the summer, was queenless. The young queen had, no doubt, either been killed by her subjects, or been lost on her wedding trip.

## FOUL BROOD.

AFTER what has been written on foul brood, it will be deemed quite unnecessary by those who have never experienced the evil, to return to the subject; but I am convinced that its existence in our apiaries, either in a mild or virulent form, has much more to do with unsuccessful bee-keeping than most apiarians are aware of. It is beyond doubt the greatest enemy with which bee-keepers have to contend, and from the difficulty of wholly eradicating it, or preventing its spreading from affected to healthy hives, the utmost vigilance ought to be maintained in case of a visitation. The present time, when egg-laying on the part of the queen has altogether ceased, is very suitable for making a thorough inspection of the state of our hives, and if in any of the brood-combs we find cells still sealed with dark brown covers, or a hardened crust black as ink lying along the bottom of any that are open, we might be quite certain that the disease is present. In some of the unopened cells there will also, probably, be found a dark, slimy, tough, putrid mass.

This year I am in a position to affirm, without the slightest doubt or hesitation, that neither "chilled brood" nor dysentery amongst the adult population, is the cause of the disease called foul brood, as developed in my apiary. I have now watched its progress during two summers, and I believe that the deaths which take place in the larva state, irrespective of the far greater evils arising from death in the chrysalis state, are quite sufficient to reduce any hive to an unprosperous condition.

In the beginning of August, 1864, I introduced a large swarm to a Huber-hive which had undergone the purifying process recommended by Mr. Woodbury for foul brood, and placed it within reach of heather, where it made such progress, as at the end of a fortnight to have combs brought nearly half down. Subsequently I fed it with sugar, and breeding went on extensively till the close of the season, not a single foul cell being visible. The winter proved severe, but it did not sensibly affect the population, and with the return of spring they vigorously resumed their labours.

The 9th of April was somewhat cold, and on that day I was surprised to see them more than ordinarily busy, when most of my other hives were idle. The mystery was soon explained; for on inquiry I learned that a neighbour at a little distance, whose bees were never prosperous and which had been defunct for a year or two, had thrown into his garden some old comb containing honey from a hive that had long ago perished. Could this be the source whence the disease with which my hive had been affected in 1863 was derived? If so, I concluded, I shall not have seen the last of it, my bees having found out and partaken so liberally of the spoil.

I had not long to wait, for with the arrival of June, fine weather also arrived, and the half combs of the Huber-hive were completed and filled with brood. Larvæ disappeared, several cells presented a most suspicious appearance, but notwithstanding these drawbacks great numbers of young bees reached maturity, and on the 1st of July the queen led off a swarm; but from that moment the hive might be said to dwindle, foul cells increased, and the queen had only one successor, all the other embryo queens having succumbed at an early stage. Besides, there were not sufficient bees for a second swarm. How different the result from that of another hive which was more backward in spring than the one in question, but being in a healthy condition was able to swarm earlier, and throw off three swarms without being too much diminished in numbers.

I next wished to see the effect of numbers in a foul-breeding hive, and for this purpose joined three swarms together and put all into the diseased hive, filling it to overflowing. No attempt was made to clear out the foul cells. The coverings were merely perforated when the enclosed matter became viscous, and apparently the contents of every foul cell are left undisturbed to become a dark enervation, and so hard as to return an audible sound when scratched with the point of a knife. From the bees in the hive having diminished to less than half the numbers added, and that, too, at a time when the queen was prolific, I strongly suspect that foul brood exercises a deleterious influence on the adult population.

Having cut out the brood-combs containing foul cells, and subjected the stored honey to the fumes of sulphur for twenty minutes, I shall be glad to have Mr. Woodbury's opinion whether it is probable that the disease will re-appear when the breeding season returns.—R. S.

[We all owe a debt of gratitude to "R. S.," for his persever-

ing investigations into the cause and effects of, as well as the possible remedies for, foul brood. In my own case I must honestly confess, that as soon as I had identified the malady all my efforts were at once directed to banishing it from my apiary as speedily and as entirely as possible, and so well have I succeeded in this endeavour, that "my last glimpse of foul brood," which occurred fully twelve months ago, appears also to have been a final one, for I have, I am happy to say, seen nothing whatever of it since. Far different has been the course of "R. S.," who (and all honour to him for it), during the past two years has been observing and experimenting upon what he most justly terms "the greatest enemy with which bee-keepers have to contend," having even gone the length of purposely inoculating previously healthy colonies by feeding them with honey taken from foul-breeding stocks. That he may ultimately succeed in obtaining a satisfactory insight into the causes of, and the best remedies for, this mysterious malady must be the earnest wish of every apiarian, and I for one shall have great pleasure in affording him my best advice and assistance.

Judging, then, from my own experience of the virulent character of the disease, I should say that there were little or no chance of its being eradicated by partial excision even when combined with sulphurous fumigation; but in advancing this opinion I must be understood to do so with extreme diffidence, since in some cases foul brood, even when fully developed, appears to have become modified and even subdued altogether without any apparently sufficient cause, as the following instances will show.

It may be remembered that in "our Journal" of the 17th of November, 1863, I published a lamentable appeal from a German bee-keeper for advice and assistance in the cure of foul brood, which was then devastating all the apiaries in the neighbourhood of Guben, in Prussian Saxony. The following letter, dated February last, describes the remedies adopted, and an apparent cessation of the disease:—

"In 1863, I asked bee-keepers far and near, whether there was not a means of curing foul-breeding stocks. In consequence of this request, I received several replies with various excellent propositions, for which I now return my best thanks, wishing that those gentlemen who sent these replies, and all bee-keepers, may be protected from the worst of all evils in bee-keeping—foul brood. Of the remedies prescribed for foul brood, I have employed two, and, as I firmly believe, with the best success.

"1. For ten stocks take a peeled nutmeg, make it into fine powder, mix it with the honey for feeding, and feed three times with it every other evening.

"2. Take three loth (1½ oz.) of powdered Indian anise, and pour a quart of boiling water on it. After cooling dilute with it two quarts of old honey and mix one anentchen (one-eighth of an ounce), of laudanum with it. With this mixture feed twelve stocks morning and evening.

"These two remedies have been employed by myself and some other bee-keepers in this district. I say purposely some other bee-keepers, as many bee-keepers detest the name of foul brood like that of pestilence. However weak their stocks, however idle the bees may be, yet their stocks are not foul-breeding, although one after another may leave the hive during the best time for gathering, and although they may count the heads of their darlings every month, and find each time a few dear heads wanting, and a few others tying on their death-bed.

"When the child is drowned the well is covered." So have I almost every day examined my bees, and with trembling hands searched for new traces of the evil on all the brood-combs; but I am glad to be able to state, that not even a suspicious cell was found, either in my apiary or in the apiaries of some neighbours, where the stocks had been fed with this medicine, while in apiaries where everything is left to dear 'mother Nature,' I have seen that the evil had become much worse. I should say with certainty we had cured our stocks of foul brood by the above-mentioned medicine, if there were not some few stocks in the neighbourhood which were foul-breeding in 1863, but which, nevertheless, worked well in 1864, and even swarmed; yet these are mostly such hives only as are examined closely but once a year—namely, at the time of the honey-harvest. Whether these stocks that have not been fed are, in spite of their busy flight, really healthy is not yet proved; but that

\* Vide JOURNAL OF HORTICULTURE, Vol. VIII., page 141.

+ German proverb.



the stocks which were very foul-breeding in 1863, and well fed with medicine in 1864, were quite healthy in the summer and autumn of that year, I have seen with my own eyes. The year 1865 will, I hope, be probation time.—N."

I shall, probably, be excused for doubting the efficacy of the so-called remedies above described, which, indeed, appear to me very unlikely to have produced any effect whatever, especially as the following extract from a letter recently received from my valued friend and correspondent, "A RENFREWSHIRE BEE-KEEPER," into whose apiary the disease had been imported in 1863, by a Ligurian stock sent to him in ignorance by me, and where it had manifested itself in the most virulent form, proves that it is, at any rate, in some instances quite as capricious in its duration, as it is mysterious in its origin:—

"While I have my pen in my hand, I may tell you, that this season I have fortunately escaped my accustomed August desolating visitation of foul brood, although I had two singular glimpses of it, a narration of which may interest you, showing a singular variation in its effects on very strong colonies compared with those more thinly peopled. In removing my first full-sized octagon super from the strong Italian stock, the only one that escaped the foul-brood visitation last season, or, I should rather say, whose *noli me tangere* strength saved it from examination, the severing thread had missed a portion of comb attached to the upper breeding-box, and the super on being raised lifted along with it one of the frames, and afforded a momentary glimpse of its contents ere it dropped back into its place, and I was quite horrified to observe several bad cells—sharp reversed pupæ of the abominable brown colour—clearly seen through the widely-perforated cell-covers. I replaced the super instantly with the upper one to confine the bees, and, of course, concluded the colony of which I was so proud had its doom sealed. I, notwithstanding, had the good fortune to take from it in succession, four more such supers, and on preparing it for the winter, at the end of last week, saw the four boxes in which it now stands crammed with bees, and, I fear, rather overloaded with body honey, as on attempting to guess at the present weight, on tugging away at the pile, I could only get for reply the unmistakable cracking of the giving way of the handles of the lowest box by which I held.

"The other case was a square straw frame-hive. After I saw the queen had begun egg-laying, the hive having been left undisturbed with a full supply of pure empty comb, and the summer was well advanced, when one Saturday afternoon I bethought me to have a look how matters were going on. On drawing the slides I was amazed at the teeming population that poured up from every opening, and although not quite pure, they were the best-marked Ligurians I have yet had the good fortune to raise. The hive was so crammed with bees that they massed up thickly on the top of one another on the hive-top, and on raising the frames I was still more astonished to find every frame loaded; indeed, overloaded, as there were projecting portions added, and these as well as the frames themselves, were one mass of the finest sealed healthy brood with not one defective cell from end to end. This sight impressed me more than anything I ever witnessed, with the conviction of the superior productiveness of the Italian bee. Some fortnight or three weeks thereafter, my attention was attracted by little pellets of stuff on the landing-board of this hive, scarcely the size of peas, dirty-white in colour, and of the consistency of soft sticky putty. This led to an examination of the hive, when I found still an overflowing population but the fine healthy brood picture reversed—nothing but decaying embryos. I shut it up in disgust, till eight or ten days afterwards, prepared with a spare box and queen cage, I again opened the hive, preparatory to putting the bees through the purgatorial process, when judge of my surprise to find every brood cell empty, and so clear of every appearance of foul brood, that I could conceive its passing muster as a healthy hive, even with you. A most minute examination alone showed a rather darker tinge on the very white cells than ought to be. Finding such a state of things caused me to pause in my purgatorial proceedings, and I have almost determined to allow it to stand over to see if foul brood break out afresh in spring, which I much fear it will. A singular thing which I noticed on my last examination, was a barricade of propolis built along the entrance of the hive, closing it up with the exception of a little space at each end. Could the transformation of the brood be caused by some sudden fall in the temperature, and this be built by the bees as a safeguard against a repetition of such an occurrence? I have read of such barricades, but never before had one under my own observation.—A RENFREWSHIRE BEE-KEEPER."

My Renfrewshire friend's suggestion that the strength of his two infected colonies enabled them to cope with and even to vanquish the disease, appears to be negatived by the experiment of "R. S.," who united three swarms to his foul-breeding hive, thereby "filling it to overflowing," but all without effect. I must confess myself wholly unable to offer any solution of the mystery, the clue to which can, probably, only be discovered by long and patient investigation and experiment. I hope both our Dumfriesshire and Renfrewshire friends will not fail to communicate the result; but in the meantime I may venture to hint that apparent are not always permanent cures, and that it seems to me that for the present they cannot do better than "wait and watch."—A DEVONSHIRE BEE-KEEPER.

## NATURE AND TREATMENT OF THE CATTLE PLAGUE.

This is the title of a pamphlet just published by Messrs. Churchill & Sons, from the pen of Dr. R. H. Alnatt, and is the most rational that we have seen. At the same time we will record as our conviction, that the deaths of cattle by the disease are much fewer than would be suspected when we read of such exceptional instances as the herds of Earl Granville and Miss Burdett Coutts.

As soon as the first symptoms appear—discharges from the eyes and nostrils, languor, and groaning, the animals should have a mixture of salts. We will quote Dr. Alnatt.

"The specific formula for an ox or a cow labouring under the disease, will be as follows, which may be administered in any stage of the attack:—

Chloride of Sodium .....	3 oz.
Nitrate of Potassa .....	2 oz.
Carbonate of Potassa .....	3 oz.
Sulphate of Potassa .....	2 oz.
Sulphate of Magnesia .....	4 oz.

Mix, and dissolve in two quarts of boiling water, and give lukewarm.

"The quantities must of course, be modified according to the age and strength of the animal, and after the primary effects of the full dose, administered in subdivided proportions.

"All wild animals have a strong natural craving for salt, and are instinctively led to immense distances in pursuit of it. It is the natural stimulant to the digestive organs. It was once the custom, on almost every farm throughout England, to use what were denominated "Salt Lickies." Large boulders of crude crystallised rock-salt were exposed in mangers and other feeding-places to which all the domesticated cattle had easy access.

"It is astonishing with what avidity they resorted to these lickies, and how sleek and healthy they became under the continued use of the saline.

"The good old custom has, I fear, become obsolete; if so let it be at once revived, for it was founded on wise and salutary physiological principles."

**NORTHERN COUNTIES POULTRY SHOW.**—This Show, better known as the "Darlington," is to be on the 6th, 7th and 8th of December. The prizes as usual are liberal, and no less than twelve silver cups are offered as extra prizes.

**LONG SUTTON POULTRY SHOW.**—We are sorry that any exhibitor met with neglect at our hands, mistakes will arise sometimes. We have now made the *amende* by posting a copy of our catalogue and prize list to each of our eighty-nine exhibitors.—CLARKE & SNUSHALL, Hon. Secs.

P. S.—For the future catalogues will not be the printed until day of show.

## OUR LETTER BOX.

**POULTRY FOR COMBINED SPACE (J. S.).**—For cottagers any of the varieties of Cochins-China, but especially the dark coloured, and Brahma Pootra. Six pullets and a Dorking cock would produce a good supply of eggs, and chickens excellent for table.

**BOOK (Malvern).**—A volume with very numerous coloured plates and woodcuts will be published at our office at the end of this month.

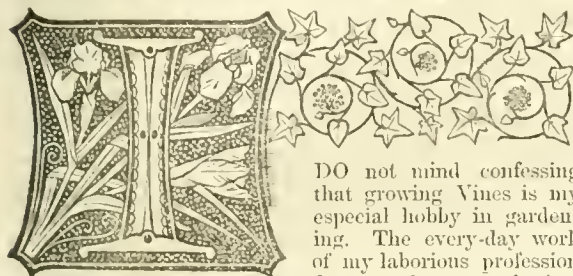
**SILK SKIRTS (B. P. C. E.).**—Our correspondent wishes to know where she can find a market for skeins of silk wound from English cocoons, as she has a considerable quantity.

## WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 24—30, 1865.	Average Temperature near London.			Rain in last 39 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	h.
24	Tu	Golden Plover appears.	56.1	37.4	47.8	17	42	af 6	47	af 4	4	11	57	7	5	15	43
25	W	Fungi abound.	55.7	38.6	47.2	18	43	6	45	4	15	11	51	8	6	15	59
26	Th	White Thurn leaves fall.	55.5	36.5	46.0	15	45	6	43	4	after.	58	9	7	15	56	
27	F	Wild Goose arrives.	54.7	39.1	47.0	23	47	6	41	4	11	1	0	11	16	2	
28	S	St. SIMON AND St. JUDE.	54.5	36.6	45.5	23	49	6	39	4	44	1	morn.	9	16	6	
29	SUN	20 SUNDAY AFTER TRINITY.	53.5	34.3	44.2	18	50	6	37	4	14	2	12	0	10	16	10
30	M	Woodcock arrives.	55.1	38.7	46.9	19	52	6	35	4	43	2	26	1	11	16	13

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 55.6°, and its night temperature 37.3°. The greatest heat was 67°, on the 28th, 1860; and 29th and 30th, 1833; and the lowest cold, 23°, on the 26th, 1859; and 29th, 1843. The greatest fall of rain was 1.06 inch.

## A SURGEON'S NOTES ON GRAPES.



DO not mind confessing that growing Vines is my especial hobby in gardening. The every-day work of my laborious profession does not leave much time

for any solar amusement, but I can find enough to look after my Vines. And then they are so grateful; they thankfully acknowledge the slightest attention—climbing, pushing, and clasping; even late in the summer developing miniature lateral bunches in some neglected corner while the main crop is colouring! I have no fault to find with stone fruit under glass, except their tenacity of attention; they insist on so much syringing, so much watering, are so fond of red spider, and flies of all colours, and throw their fruit upon the least offence, that I determined to bid them a friendly farewell, and fill up their place with Vines.

The very growth of the Vine is joyous and bold, meeting you every morning with a fresh burst, and almost rushing up the wires to greet you after a longer absence; and a professional man's pet ought to bear a short absence without materially suffering. This is eminently the case with the Vine, and is a most powerful argument for its adoption as his hobby. These remarks sufficiently premise that I do not force. Why should I? As I shall presently show, I can get Grapes quite as early as I can find time and place to eat them; for we are equally fond of bush fruit. Even now the October Red Raspberries are nearly in as much request on my breakfast-table as Black Hamburgs. Grapes, however, have never been more relished than in this past September; it gave us a slight idea of the necessity they become in Southern Europe. With us they are usually eaten in the cool half of the year as dessert after a good dinner, when their finer qualities are with difficulty appreciated; but this summer they have been consumed in large quantities as a cooling article of diet, escaping their usual fate of being transformed into "wine," which, if its qualities are somewhat doubtful, has pretty tolerably certain effects. What the extremely carefully-written directions of "UPWARDS AND ONWARDS" may effect in the improvement of these national beverages remains to be proved. At present British wines are very little better than sweetened small beer, with the special flavour of the name of the wine attempted to be added. For the poor, who buy largely of these drinks in illness, the introduction of good and cheap Marsala is an excellent boon. But if I do not force Grapes I can keep them, and so enjoy them late, about seven months out of the twelve. This is longer than we get game, and it is, perhaps, better to be without such high-flavoured luxuries for a time, that the zest may be more ardent when their season returns.

I grow my Vines in three ways—on walls, in ground vine-ries, and in cool vineries, and I hardly know which method has this year given me the most pleasure. With out-door Grapes this has been the finest season since 1857, though 1856, 1857, 1858, and 1859 were all good. The next four years—1860, 1861, 1862, 1863—were nearly equally bad from the well-remembered winter-summer of 1860, and the partial failure of the succeeding summers. 1864 was too dry, though, perhaps, the fine crop of this year owes its existence to that dryness.

Although in Huntingdonshire, just on the verge of the parallel where Grapes refuse to ripen (52° 20'), I grow and succeed in ripening ten varieties out of doors. They are given in their order of ripening—Early Malingre, Sweetwater, Miller's Burgundy, Grove-End Sweetwater, Royal Muscadine, Hyland's Hardy Black, Muscat St. Laurent, Black Hamburgh, Esperione, and Muscat de Sarbelle. Eight of these are pitted against each other, in the fairest possible manner, on the Thomery system, planted 2 feet apart, each with two aris, 4 feet long, spurred in closely to one eye at every 7 inches along the rod. This system gives perfectly fair results, and if faithfully chronicled for a term of years would give valuable data as to the growth and ripening of the different varieties.

To the first-named, the Early Malingre, I am glad to attach my testimony of its good qualities. For three years it has ripened on the 20th of August on an open wall, when other varieties with exactly the same exposure and treatment were still stoning. It is a very elegant oval Grape, with the crimson calyx still adhering to the berry. The bunch is also prettily shaped. I was sorry to see Dr. Hogg's low estimate of it in the "Fruit Manual;" but Jove is reported to have occasionally nodded. The Grove-End Sweetwater, in spite of its synonyme, is hardly so early or so fine as the old Sweetwater. To my taste the Royal Muscadine is superior to both, more gelatinous, *croquant*, and has not the rank taste that the Sweetwater acquires when grown on walls. Miller's Burgundy will always ripen, and if opportunity be allowed for eating, will always please with its Black-Currant flavour. Hyland's is a very good Grape, reared by the late gardener at Hinchinbrooke. It is a most lovely Vine in the spring, from the beautiful pure light green of the young shoots, and the number of bunches it shows. It is not a good setter if the weather is cold and wet at the flowering; but this year it has been most successful. It has closely-set bunches: berries black, oblate, roundish; slight Muscat flavour, more fully developed under glass. I cannot say I care for the Esperione, though a most prolific bearer, with fine bunches. Except in such favourable seasons as the present, it is sadly deficient in sweetness and flavour: and I can well believe "UPWARDS AND ONWARDS" when he says that honey is an excellent addition to the wine made from it, even in excess of the sugar. Muscat St. Laurent is a watery Grape, decidedly Muscat; rather shy bearer out of doors, though prolific under glass. The leaf in dying shows the Sweetwater parentage. Sarbelle shows freely, growing well, but is difficult to ripen, and is hardly so good as Hyland's.



The out-door Vines are trained on three systems—the old spur, the Thomery above mentioned, and the Hoare system of long rod; and I like the Thomery best, for its compactness and its preventing waste of walling. In the two latter nailing is dispensed with by straining galvanised wire through eyelet nails half an inch from the walls, about 9 inches from the bearing rods, and tucking the young shoots under them as they grow. No further trouble but that of stopping is required with the horizontal arms of the Thomery system. Hoare's plan requires vertical rods and wires, and shoots with heavy bunches will probably require tying; but the comfort and saving to my fingers and walls are enormous. The yield is, perhaps, much the same with all. Young wood gives larger bunches; old wood, I am inclined to think, higher flavour, and it seems to have more ripening power.

The ground vinery is one of the many good things we owe to Mr. Rivers. I grow four varieties in this manner—Black Hamburgh, Black Prince, Chasselas Musqué, and Grizzly Frontignan, the last a mistake on the part of the nurseryman. They all grow well, are very strong and healthy, and have ripened their fruit easily. My ground vineries run east and west, and are roofed on the north with either slate or boards. They are wide enough for two rods, and the northern Vine ripens its wood, though not enjoying quite so much sun as its fellow; but I train the rods pretty near the edge of the frame, and throw the shoots of both into the centre. They are ventilated with perforated bricks, made in this locality, each brick having twelve rectangular narrow holes, so that birds and mice are prevented from entering. These are set up edgewise, close together, on another line of bricks bedded level in the ground. The south front of the lights is hinged, so that, as in this hot summer, the light can be raised an inch or two, so as to avoid burning, which some of your correspondents complain of. Slates inside I use very sparingly for the same reason, they often proving fatal to a young shoot or bunch on a hot May day. Flat tiles keep the bunches nice and clean, and are quite sufficient; the ground is quite hot enough for the ripening of the shoots. Red spider, as Mr. Rivers has told us, cannot exist in these structures if a little sulphur is strewn on pieces of slate. There is no necessity for overdoing it. Begin when you see the first leaf with the yellow spots.

I have always found it necessary to protect these ground vineries from spring frosts, from which I suffer in the most disheartening manner. A single mat, sack, or canvass bag thrown over the glass is quite sufficient to save the shoots. Vines are evidently quite at home in these structures, and if it were not for the stooping required in tying the shoots and thinning the bunches, I should increase my surface considerably. My plan cost rather more than Mr. Rivers's, though the hinged light is most comfortable, but is not nearly so expensive as the "patent," so industriously advertised. I ran them east and west on the border of a cool vinery to drive off the incursions of my groom gardener, who always attempted to make it his seed-bed, and they must also assist considerably in warming and drying the border, and the ground is thoroughly economised.

In two cool vineries I grow eleven varieties, spurred in closely to one eye. If I had more faith, I think no eye would be better still. I continually find myself cutting off the spur entirely, choosing a shoot which has sprung from the rod itself. This, of course, is in the spring. The names are Black Hamburgh (half the surface of glass), Black Prince, Lady Downe's, Trentham Black, Muscat Hamburgh, Black Frontignan, White and Grizzly ditto, Buckland Sweetwater, common ditto, and Chaptal. All ripen well, the old Sweetwater leading the van about the 13th of August, followed rapidly by Chaptal, the Frontignans, and Black Hamburgh; the latter and Lady Downe's keep easily till February if frost will let me. The Muscat Hamburgh is best eaten when first ripe. This I have grafted on Sweetwater and Black Hamburgh stocks; to the former it is like a young cuckoo to its step-mother hedge-sparrow; but the old Vine does its best to nourish the big bunches. The flavour is the highest and most composite in my experience among Grapes. The piquancy of Black Prince, gelatinous muskiness of the Chasselas Musqué, sugary richness of Black Hamburgh, and even the high aroma of the Muscat of Alexandria, are all represented in this wonderful Grape. The Frontignans are very fruitful, ripen well, but are so capricious in shanking, that they will never, I fear, be grown to profit under glass. White Frontignan, in my experience, is the most healthy, and, perhaps, nearly as nice as the Red. Chaptal has large handsome bunches, exquisitely sweet berries, but must give place

to Buckland Sweetwater, which merits all the encomiums it has received. Our Nestor of fruit-gardening has called this variety a true "White Hamburgh," and its handsome well-shouldered bunches with large elegant berries, gelatinous, and full-flavoured, form the most beautiful contrast on the dessert dish. Neither the wood nor the general habit is quite so robust as in the Hamburgh, and there is, perhaps, a slight hereditary delicacy in these points. Not much need be said of the Black Hamburgh. Its besetting defect, imperfect colouring, may be traced in almost every instance to over-cropping, or its analogue, deficient supply of proper nutriment to its roots. In this brilliant year complaints of want of colour are numerous, and deficiency of heat cannot be alleged. Mere ammoniacal manures are powerless in averting this defect. The border must contain sufficient bone earth, and the bunches must be unsparingly thinned in number and individual bulk. Much experience on this head may be gained from fruiting Vines in pots. Want of colour is a fatal defect, and the flavour is always more or less spoiled. Though showing a handsome cylindrical bunch, colouring under almost any treatment, and most prolific in bearing, I am yet at a loss to know why Black Prince should still be considered a first-rate Grape. It is certainly brisk, piquant, not deficient in sweetness, but it is thick-skinned, and can with difficulty escape the charge of coarseness.

Mine are shallow borders of light friable materials, bones, and ashes, refreshed two or three times a-year with the emptyings of a manure tank. The largest leaves and thickest shoots do not always show the best Grapes the next season; but I feel that in this and many other points I should be only repeating what is so often given in THE JOURNAL OF HORTICULTURE, and as it is, must apologise for the length of this communication, which will hardly escape the Editorial scissors.—J. H. H.

[No fear of the pruning scissors being applied to such communications, and the more we are favoured with, the more shall we be obliged.—Ens.]

## CYCLAMENS AND THEIR CULTURE.

(Concluded from page 314.)

WITH respect to the cultivation of Cyclamens as hardy plants, the red and white neapolitanum are, perhaps, the most beautiful of all during the late autumn and winter months. What would be finer than the white neapolitanum in a row 1 foot from a Box-edging, and another of the red 1 foot behind it in a ribbon-border? Why not plant them thus with good balls in October, and at 6 inches apart? They are, indeed, beautiful objects from the beginning of November till spring.

In some localities these plants will not succeed, but except in cold clay soils and bleak situations, there are few places in which they cannot be grown. The only season in which I knew them injured was 1860, when the foliage was cut off to the ground; but as a proof of their hardiness, although many other plants were killed in that extremely severe winter, the roots of these were uninjured. On the other hand, I have grown them in strong rich soil, and they have been killed by 10° of frost, whilst in light well-drained soils they stood our ordinary winters uninjured.

*C. europæum* I have not found hardy until recently, and this, I think, was in consequence of growing it in too rich and wet soil. It is, I am quite sure, not to be grown as a hardy plant in cold wet soils; it does best in an elevated, dry, stony situation. It was with me a most sickly plant, and would not bear so much frost as a *Calceolaria*; though no frost had any effect on the root, yet it became weaker, as we might expect, from losing its foliage early every year. To grow it it should be planted on an elevated site, such as rockwork not too dry, and if it be shielded from the midday sun in summer, I find it succeeds better than when fully exposed, though it likes an open situation. In such a position, with a soil composed of leaf mould, peat, and light loam in equal parts, free drainage, and plenty of fresh air, though in a sheltered nook, it is one of the prettiest and sweetest flowers in any garden.

*C. repandum*, like *C. europæum*, likes fresh air, and it is not so tenacious of life as the last, but will perish if kept in a wet soil whilst in a dormant state. It is quite hardy, however, and requires nothing but a free, open, well drained soil, and then it blooms in spring, but generally not before May, though it will sometimes do so in April. It is a good plant for flower-garden decoration in April or May in favourable localities, but



is as yet not generally cultivated, the red *neapolitanum* being confounded with it, but the latter flowers in autumn.

*C. eorn* I have not found hardy, though I find it set down as a hardy plant by various writers. In some favoured localities it may do fairly, but I have had to afford it the protection of a frame, and even there unprotected it perished.

I cannot conclude this communication without adverting to the subject of raising *Cyclamens* from seed, that being the only digible method of obtaining plants, though occasionally they may be increased by taking off the spurs that rise from beneath the soil, yet this is apt to cause the parent root to rot where the wound is made, and brings on disease, and ultimately death. It seems to me very strange, that if we take a spur, such as is frequently noticeable in *Cyclamen europæum*, or stem with a crown, and remove it close to the corn, the wound on the stem will heal over, that on the corn not doing so; and though the spur or stem will grow, and annually produce leaves and flowers, it will not form a corn, though it may elongate, yet that is chiefly at the point from which the foliage appears.

The seed should be sown when fully ripe (and when this is the case the seed-pods open at their apex, and let the seeds fall), using well-drained pans, and a compost of sandy peat and loam in equal parts. Just cover the seeds with soil, and after giving a good watering place the pans in a cold frame, giving the preference to one in a shady situation, as insuring a uniform degree of moisture in the soil, and, consequently, speedy germination. Sometimes an inverted pan is placed over the other to secure this; the pan being plunged in the open ground, but a better plan is to cover the surface of the pot or pan lightly with moss, and to keep the moss moist by gentle sprinklings of water, removing it when the first seedlings make their appearance. Both these modes have a tendency to draw the plants, but without some such contrivance they do not come up so soon as desired. Care must be taken to remove the inverted pot in time, and to take off the moss gradually, otherwise the seedlings will receive a check, and be a year later in blooming. Keep them moderately supplied with moisture, never allowing the soil to become dry, and never saturated, admit abundance of fresh air, protect from heavy rains, and as winter approaches lessen the supply of water, yet keep the soil moist, giving air on all favourable occasions, and protecting from frost. In spring water more liberally, sprinkling slightly overhead, and do not "coddle" them, but use the lights more by day than night, for nothing is so good for plants wanted to grow fast as the evening air, the cold of night, and the dew of the morning. Keep lights on during the day, and at other times to keep out frost and rain; a mat can be thrown over them from 10 A.M. to 3 P.M. in hot weather. Persist in this until August, then cease to shade, reduce the watering, and expose to the sun and air continually, except when heavy rains occur. Towards the end of September pot the young plants singly, using small pots, but if they are still in the seed-pan it would be quite as well to prick them off, about an inch or so apart, into other pans. I sow the seed at such distances apart that there is no necessity to remove them until they are potted out of the seed-pan; but when the seeds are sown thickly the seedlings are best pricked off when a year old; for the best seedlings, which are invariably the weakest, will be smothered if not either potted or pricked off. I do not like to handle *Cyclamens* when very small, otherwise I believe they would be better pricked out when sufficiently large to handle. After they are potted they require the same treatment as established or old plants, and they will bloom at two and three years old.

In conclusion, I would enter a protest against drying the bulbs of *Cyclamens*, by taking them out of the pots, or keeping them in them throughout the summer on shelves in the greenhouse, and without a drop of water. Well may such plants as these not be successfully cultivated in England, when they are roasted in summer, and drowned in winter. When at rest they should be plunged out of doors, or in a cold frame, in a situation shaded from the midday sun.—G. ABBEY.

TODMORDEN BOTANICAL SOCIETY, October 2nd.—On the table were various examples of flowering plants and Ferns. Among the latter was a very curious and quite novel form of the Male Fern (*Lastrea Filix-mas*), gathered last year in Westmoreland, and named *excurrens*, all the pinnae being permanently abrupt, and furnished at the apex with a sharp excurrent point; also a form of the same Fern, regularly interrupted in the pinnae, and tasselled at the ends, very pretty indeed, but whose permanency remains to be tested. G. C. Churchill, Esq., of London, sent specimens of the two rare *Aspleniums* *Selovii* and

*fissum*, the former from Lienz (gathered on the dolomite), the latter from a mountain in the Woehein, Carniola. Mr. J. Hurlley brought *Blechnum spicant heterophyllum*, a fine example, found in the Hebden valley, a valley than which few in the north of England are more rich in cryptogamic plants. Mr. Nowell also submitted a very singular form of the last-named Fern, combining at once the characteristics of *concinnum*, *projectum*, and *strictum*. This oddity in the way of a Hard Fern Mr. Nowell had likewise gathered in the valley of the Hebden.

## WHAT'S IN A NAME?

It is unparliamentary in either House of Parliament to speak of what transpires in the other, except by the vague term "another place;" and so, I suppose, we must observe the same rule in journalism, and merely in speaking of our contemporaries say, "It has been said elsewhere." And thus I must now say that there have lately appeared elsewhere one or two articles on the Rose, on which I think, as one of the "enthusiastic and good-natured correspondents of the gardening papers" there alluded to, I ought to say a few words. The statements there made seem to require an answer, and I hope to do this without the least feeling of annoyance. When I for one give those lists of new Roses which "*Rosa Anglica*" (not, if I mistake not, the usual signature of the writer), alludes to, the readers of *THE JOURNAL OF HORTICULTURE* will bear me witness that it is not for the purpose of praising them. No one has more thoroughly reprehended the plethora of new things with which we are every year threatened than I have, and I have thereby drawn down on me from more than one French grower letters which do not breathe that vast amount of politeness for which our neighbours are celebrated; but when their lists are published I have generally dissected such, and from either the knowledge I have had of the growers, or of the character of the flowers previously sent out by them, or from having seen the flowers, I have given my opinion or conjecture of what were likely to turn out good. Sometimes one is right, and sometimes wrong; but in my opinions and conjectures in the past season, I am glad to say I have been in many instances right. However, I anticipate, and will take the matter in order.

The writer names thirteen crimson Roses, and says that the years 1864 and 1865 have not produced anything to equal them; and I there join issue. Two of these Roses I grew and discarded long ago—*Souvenir de Lady Eardley* and *Turenne*. They are both, though fine in colour, far too thin to be ever of any use, except in the bud, when others are equally beautiful. I am quite ready to admit that it is almost impossible to beat *Charles Lefebvre*, but even it is faulty: it wants a few more petals in the centre, although without doubt it is the grandest Rose we have. Amongst the others, *Duc de Rohan*, *Alphonse Damais*, and *Maurice Bernardin* are all fine, but all very much alike; and I contend that *Pierre Notting* of the 1864 season is worthy of a place amongst the very choicest ones, superior to many of those named, and equal in character to *Senateur Vaisse*, though of a different shade of crimson. The same may also be said very nearly of *Rushton Radelyffe* (1865); while *Madame Victor Verrier* (1864), is not one whit behind any of them, and I believe will stand in our lists when *Alphonse Damais* and others he has named are forgotten. Then as to rose-coloured Roses—by which, I suppose, he would include deep pinks—I am very much mistaken, from what I saw of *Duchesse de Caylus*, if it is not fully equal to *Jules Margottin* or *John Hopper*; it is so beautifully formed, and such an exquisite shade of rose. Then, again, *Duchesse de Morny* cannot be overlooked as a splendid addition to rose-coloured flowers. With regard to white or flesh-coloured Roses the past two years have certainly given us no addition worth naming. *Louise Darzens*, *Madame Macker*, and others are rather *Hybrid Noisettes* than *Perpetuals*.

In giving the list of new Roses of last year, "*Rosa Anglica*," curiously enough, omits from his list of raisers, and thus puts amongst the small growers, my old friend *Margottin*, the raiser of *Jules Margottin*, *Louise Odier*, *Souvenir de Comte Cavour*, &c. Some of the raisers he has there named do indeed give us a vast deal of rubbish, and the only way for our ever hoping to have a more select list is by Rose-growers resolutely refusing to purchase.

I think the test that "*Rosa Anglica*" gives of the goodness of old Roses and the badness of new ones—that whenever he detects a fine Rose in a garden or box he is sure to find it to be one of his old favourites—arises from this, that where he has one plant of a new Rose he has twenty of an older one. And the same in stands; very few of the new Roses appear until



after the second year, except in one or two stands; and I perfectly remember that Charles Lefebvre himself did not take his position until he had been over here two years.

But it is as to the naming of the new Roses that "*Rosa ANGLICA*" waxes strong; and not contented with the attempt "*spargere ambiguas voces*," comes out at once with the charge, direct and clear, that the reverends whose names have been appended to French Roses have received a *douceur* of new Roses, and in consequence thereof have given a lift to them—that is, praised what they have never seen. Now, Mr. Radclyffe and myself are the only two Protestant clergymen whose names are to be found appended to French Roses by French raisers, Mr. Hole's having been given by Mr. Standish. Whether we are capable of doing such a thing, or whether we have done it, the readers of *THE JOURNAL OF HORTICULTURE* can determine. I have never, and I do not think Mr. Radclyffe has ever, praised a Rose that we have not seen, and I do not think we need be ashamed of those which bear our names. I know that amongst Bourbons, to which class the Rose named after me belongs, there is not one to equal it in colour; and, as I have said, Rushton Radclyffe is a fine Rose of the light crimson class. Of the Roses I saw last year I named this and Maréchal Niel as the only two of Eugène Verdier's I had seen that promised to be good, and the latter I pronounced magnificent. Has it not proved so? I also conjectured that Duchesse de Caylus, Duke of Wellington, and Duchesse de Medina Celi would prove good, and I am pretty sure that they will do so. So amongst the Roses of this year which I have seen, I am fain to stake my reputation as knowing something about Roses on the two fine flowers Margaret Dombain and Alfred Colomb; and let this be observed, that if we do not say anything about a new Rose the first year, the French growers care very little what we say afterwards. The first year is their harvest; after that our English raisers can equal if not exceed them.

As to nurserymen, "*Rosa ANGLICA*" says plainly, "Any English florist giving an order to a French Rose-raiser to the amount of five hundred francs may have a Rose dedicated to him—that is, named after him: it is thus we have so many French Roses with English names attached to them." Imagine this—the silly vanity of which he supposes our English florists guilty! I find the names of James Veitch, John Cranston, John Keynes, William Bull, William Paul, George Paul, and others attached to French Roses. Which of you, gentlemen, ever gave five hundred or five francs to have a Rose named after you? Not one, I venture to say. Is this silly charge a new one? Is it only of late years that the practice has become reproachable? Yet after all, what's in a name? "That which we call a Rose would smell as sweet by any other name;" and whatever names French raisers choose to give to the productions of their gardens, be good-natured, and do not quarrel as to the nomenclature.

Had "*Rosa ANGLICA*" put forward his views without these insinuations, I should have more agreed with him, and do in fact agree on the main point—viz., that we are flooded with new Roses, and must protest against them. Already I see M. Eugène Verdier announces twelve. It is impossible that they can be all good. One of them I know is; two others I saw, but cannot say that I considered them first-rate, and probably none of them, save the one I have mentioned, will prove so. We shall have probably a hundred Roses: if six of them prove valuable we shall do well. Rose-growers must judge by past experience, and be chary of ordering the Roses of those growers whose productions have proved to them a loss.—*D., Deal.*

### CLOTH OF GOLD GERANIUM—SOIL FOR GERANIUMS.

I AM pleased to hear of the success of Mr. McLellan with Cloth of Gold Geranium. I only regret that he did not send his communication earlier, for I would then, if agreeable, have sent some of my plants to him, with a portion of the soil in which they were growing, as he thinks there must be something materially wrong therewith. The soil which I prefer for the whole class is fine, soft, mellow loam, cut 4 inches deep with the turf, packed away turf inwards for twelve months or more; peat of a kind that contains a considerable quantity of fine white sand; and some leaf mould and good manure used rather sparingly than otherwise. If Mr. McLellan, or any of your numerous correspondents, can recommend something better I shall feel obliged for the information.

In my former communication I did not refer solely to my own plants, for I had seen the variety under different circumstances and in various situations doing very indifferently indeed. I should here like to tender my thanks to "R. F." for informing us of his failure. For my own part I have done with Cloth of Gold as a bedder, since we have varieties that do better and answer the same purpose. From what I have at present seen of Miss Watson I am unable to discover any improvement on Mrs. Pollock. "R. F." has referred to the variety; perhaps he has had a better opportunity of judging of its qualities, and may therefore be able to give us a little information on the subject.—F. FLITTON.

### THE RIPENING OF PEACHES IN ORCHARD-HOUSES.

BEFORE answering the remarks Mr. Rivers has made on my paper on "The Forms of our Fruit-houses," I will say a few words upon my intention in writing it.

I have now for some years given my leisure hours to the study of horticulture, and during this time I have continually been impressed with the little change the introduction of hot water has made in the construction of our fruit-houses, and more and more convinced that the time is fast coming when a garden will no longer be looked upon as a luxury and an expense, but treated from the same point of view as a model farm. I had, therefore, two desires—to learn the opinion of the gardening world on the possibility of getting what I called cubic measure out of a house, and also to query if the present mode of training Vines and Peach trees is not wasteful of light, heat, and space.

The only answer I have seen is from "Vitis," and he wrote under a false impression, which he would see by the second half of my paper. I hope he will next year tell us how his Vines have succeeded. I do not think we differ on the question of pruning, I did not enter upon it; but as he does, I may say, that if he studies Mr. Bréhaut's book he will find an espalier will require no more attention than a bush tree. When I saw my paper in your Journal, I thought it read too much as if I was laying down the law, I only wanted it to read as if it came from one who believed what he wrote. Mr. Rivers does not charge me with ambiguity, and if he can prove that I am wrong, I will freely acknowledge that my letter was not written in vain, but that I at least have gained in knowledge; and let me ask as a matter of courtesy, that he will treat me as one who can comprehend small things, and that after he has called my figures "fictions of fancy, Spanish air-castles," and said "no such houses and no such treatment exist," he will take as much pains to prove his statement as I have done.

He begins with what he calls my "scientific dialogue." I have often heard of the science of gardening, and though I did not use the term, I think if Mr. Rivers had given us the reasons why orchard-houses answer in the places he mentions in the north, his letter would have merited the term semi-scientific, for he would have had to give us the geology and meteorology of each place; but then he would have proved them the exception, not the rule. Mr. Rivers must not think I am an enemy to orchard-houses, if I lived in his climate I would build one at once. But what is an orchard-house? Mine would not have a bush tree in it, and I should call it one, and yet the lean-to houses at Hallingbury Place are claimed by Mr. Rivers as orchard-houses, though the description as given in his book reads to me like that of a Peach-house. Then I come to the question of temperatures, and what is shade? If I enter a house and ask the gardener what temperature he has, will he think I mean in the shadiest corner? I think not, for if a thermometer is to be of any use it is fairly to represent the temperature of the house for the information of those who have charge of it, and that is the sort of indication I gave; and I am ready again to state that the Peach-house and vinery in my garden, and of which I sent you sections, were during the hot weather at the end of last month, with the ventilation on, at 100° in the day, and from 40° to 45° at night. I may also say that I am at a loss to understand how Mr. Rivers could get a reading of only 80° in one of his large houses, and out of doors 69° at 2 p.m., "on one of the bright warm days we had last month," when I read in the *Times*, that the thermometer in the open air was as high as 81.3° in the shade in Cumberland.

I will now refer to the high temperatures Mr. Rivers considers so absurd, and I regret very much he does not give us the highest he has observed in his houses. I think I have a

right to ask this after the positive manner in which he denies the truth of the temperature I gave—110° to 120°. The house I referred to had been on the day of my visit at 126°, so I was told by the foreman, who said the thermometer often rose to 120°; the time was the second week in August.

I do not think I am authorised without asking leave, to give the name and place; but it is not important, as my Pine stove will go as high as I said.

Mr. Rivers writes in so amusing a strain, that it is difficult to tell when he is joking, and to understand his comparison of "a man at a window" with a Peach tree going to rest. He says mine "were put to their unhealthy rest in August, by management so bad as to be almost incredible." Covent Garden can testify that the Peaches were ripe in May. Is August then untimely? and will it hurt their feelings more to be put to rest by means of a soft August wind, than by the same process in October and November? Cold nights will alone send trees to rest, and as long as they continue vegetation is kept in check.

In his last preface Mr. Rivers says, "he feels that he is now a central authority in matters appertaining to orchard-houses," so even in this my practice is, I am pleased to find in as perfect accord (as is possible under the circumstances of one set of trees being fixed, and the other moveable) with what the Fenians would call the "head circle." Mr. Rivers, speaking of the trees he raises for sale, says, that he grows them in his houses till July; by this means he gains for them several weeks at the start, when June comes he lets in the night air; in July more impatient than I am, or, perhaps, I should say, having a better knowledge of the importance of stopping their growth that they may have the longer period wherein to mature their buds, he turns them out of doors. Why? Because he tells us he secures for them by this means a ten-degrees-colder night temperature. The trees he sent me I am ready to testify were beautifully set with buds, and this must confirm us both, I am sure, in the opinion that we cannot do better than continue to follow this treatment, and I am only sorry that he should have thought "it was delightfully original on my part."

This subject, the effect of night temperatures on vegetation, is one that merits more attention from gardeners than it has received, and I should like to send you long quotations from Dr. Bennet's interesting book on Mentone bearing upon it, but as I have already written a good deal, I must limit myself. The night temperatures of the four winter months he gives at from 40° to 48°. In January, 1861, he sat out of doors reading two hours each afternoon, "I was, however, always obliged to screen myself by the lined parasol, without this precaution the position would have been quite untenable. A thermometer in the shade near me marked 50° to 62°." "The deciduous trees lost their leaves in December, as soon as the nights became cold, and did not regain them until April, when they were becoming warmer." "On the other hand, in the sheltered situations exposed to the south, the heat of the sun so warmed the soil, that it had not time to cool at night, and such situations became regular forcing-beds, producing, as I have stated, Violets in December, Anemones in January, and all our spring flowers early in February. Where the sun did not penetrate, on the other hand, the ground vegetation remained torpid, like the deciduous trees, till March."

Am I not, then, simply working by Nature's own laws, and using those faculties of observation which I received from her for this purpose?

In conclusion, I beg to thank Mr. Rivers for his most cordial invitation. I have already partaken several times of his hospitality, and I shall hope to visit him again when I come up to the Great International next year.—G. H.

P.S.—In reply to "LIVE AND LEARN," if you will undertake to forward it to him, I shall be very glad to send a working plan from which he can get an estimate of the cost. I think you will agree with me, it would be improper that I should give one. This will answer most of his questions. On the angles of houses, as affects sunlight, I can add nothing to what he will find in your Journal for May 16th, 1865. All practice in gardening tends one way in planting rows of trees, that the lines should run north and south. Orchard-houses are built this way, and market gardens and orchards follow the same rule.

SUMMER FRUIT IN OCTOBER.—As a remarkable instance of the effects of this year's prolonged summer may be mentioned,

that I have in my garden (Weston-super-Mare), a second crop of Raspberries, and also a few Strawberries. They are quite ripe and sweet, and equal in flavour to the first crop.—F. W. B.

## ORCHARD-HOUSE TREES.

ALLOW me to call the attention of cultivators to the great benefit derived from chalk or lime rubbish, when finely powdered and mixed with the compost for repotting or the autumnal top-dressing of all stone-fruit trees. For Apricots I believe it to be quite indispensable, judging from the unvarying success of their culture here, the soil used being full of comminuted chalk. As far as I can judge, one-tenth of the potting-compost should be of the above materials. This mode of making an artificial calcareous compost is perfectly safe, and may probably lead to perfect success in Apricot culture.

May I be permitted to correct two slight misprints in the article at page 291? It should be "closed at night," instead of "closed by day;" and in page 292 "base" should be "bad."—T. R.

## KITCHEN GARDENING.

### SEPTEMBER.

DURING this month there will be a few more summer crops to be removed that their places may be taken up by winter ones. In the first place, there will be the Champion Peas now over, which may be at once removed, and the ground which they occupied should be prepared, and sown with Corn Salad; or, if so much Corn Salad is not required, the spare part of the ground may be planted with Coleworts, as I am an advocate for the last-named vegetable, though I am aware there are many parts of England where it is scarcely known, or, if so, not appreciated as it deserves to be. The variety we grow here is called Rosette-leaved Hardy Green, and I always make it a rule, to continue planting this on every spare foot of ground till I have a thousand plants in successions.

Early in the month I plant my first lot of Cabbage for spring use in the ground that was prepared for the purpose six weeks or two months previously, and which by this time will be in first-rate order. I plant for this batch seven rows at 2 feet apart and 1½ foot asunder in the rows, drawing drills, and watering these the day before planting. Towards the end of the month the last lot of Peas (Knight's Dwarf Green Marrow) will be useless and should be cleared off, and the Beet and Carrots being adjacent these may be taken up and stored away, thus setting a good piece of ground at liberty. This I have well manured, deeply dug, and then planted with what I term my second lot of Cabbage, and four or five rows of Coleworts. This second lot of Cabbage does well for standing for sprouts a year or so if wanted. One great advantage that we London gardeners have is the facility of obtaining plants of Cabbages, Coleworts, &c., of any size and in any quantity from the market gardeners, but of course where this privilege does not exist plants must be prepared at home.

The Cauliflower plants will by this time require pricking out under the hand-lights, but by no means put the tops on till frost renders it necessary to do so, as the more they wither and flag to get a good root-hold the better will they stand the winter, and, for that reason, I generally put mine in a row across the open part of the garden, about nine to each hand-light. Previous to protecting them I find it a good plan to cover the earth about their roots with about half an inch of cinder ashes, which keeps out the frost and also keeps them dry.

The established crops of winter stuff should have the ground between the rows kept continually stirred when practicable, as this month with such crops is almost of as much importance as the time a crop of Grapes is swelling is to that crop. The Turnips and Spinach should be hoed occasionally to keep the ground open and the weeds in check. The first row of white Celery should, in the beginning of the month, have its final earthing-up so that it may be ready for use at any time, and it is as well to use it while it is good, for if kept too long it is sure to pipe or rot. The red Celery for second and late crops should receive every attention, and I think this year they have given more trouble than anything on account of the Celery fly, which has been here very troublesome. The only plan to master it which I find effective is to pick off the affected leaves about twice a-week. Two rows of Late Red that I had were literally stripped to the bare stalks, and I had



decided on taking them up and making some better use of the ground they occupied, but wishing to see whether the grub or myself was to be the conqueror I let them stand with not a particle of foliage on them, and they are now (October) looking exceedingly well. Some of the Endive will be ready for blanching; and if a scarcity of salading should be felt, as it often is at this time, the thinnings of the Lettuce and Endive seed-beds will form an excellent substitute till better salading come in, or at all events till the Celery is in full play, and the blanched Endive is ready. A bed of Lettuce should be pricked out on a dry border. The supply during this month will be rather limited, on account of the summer crops being removed before the winter ones afford much variety, but we may depend upon having Scarlet Runners, Dwarf Kidney Beans, Coleworts, Cabbage, Brussels Sprouts, and Vegetable Marrows.—BURSTWOOD, P. D.

(To be continued.)

## MY PLANTS,

AND HOW AND WHERE I FOUND THEM.—No. 11.

It was on ascending the hill from the village of Oakamoor on our return home, that we gathered specimens of several species of Buckler Ferns; the *Lastrea dilatata*, *L. Filix-mas*, and *L. thelypteris*, all growing under the friendly shade of the trees above them, and being freely supplied with moisture from the continual trickling of tiny springs above and around them. I am not quite sure whether it was from this spot, or the Alton woods, that I obtained my present fronds of the *Lastrea montana*, Mountain Buckler Fern, but it was during this expedition. Moore says of it, that it "is a very elegant species, the fronds growing shuttlecock fashion around the central crown, which terminates the stem, to the height of from 2 to 3 feet. The plant is so fragrant, that when drawn through the hand it may be recognised from its kindred by this circumstance alone." On Chaddle Common I one day gathered some very pretty and elegant fronds, which were fringed or tasselled. I believe it was the variety *cristata* of *Lastrea Filix-mas*, the foliage when mixed in a bouquet of garden flowers had an uncommon and lovely effect. Growing in a ditch near this place, and beneath the shelter of a Pine wood, I came upon a plant of the same species of most luxuriant growth, but of a very unusual shade of colour, and which contrasted beautifully with the *Athyrium Filix-femina*, and the two *Lastreas*, *thelypteris* and *Filix-mas*, of a light green hue, which were in close proximity to it. I believe that a rich maroon would describe the colour of the fronds. As the summer was then passing into autumn, I suggested that this change of foliage might be attributable to this cause, but from the fact of the surrounding Ferns retaining the full green shade of their summer dress, and that every frond of this particular plant was of the same dark hue, we came to the conclusion that Dame Nature was alone to blame, if blame her we could, for so pretty a relief and contrast to the mass of green around us.

The want of water in our Staffordshire landscapes has often struck me as a curious circumstance, whilst the Ferns and flowers seem to rejoice in a continual supply of moisture from tiny and almost hidden sources; springs seem to be arising on all sides, but there seems to be no general gathering together of these little forces to form any important amount of water. Where, however, we occasionally meet with a stream in the valley, forming a bright and refreshing feature amongst the mass of vegetation with which the sides of the hills are clothed, then, indeed, I think that the scenery of this county can rarely be excelled. In Norfolk, besides the rivers, we frequently meet with broad expanses of water, which come under the denomination of small lakes, and in these broad expanses revel the white and yellow Water Lilies. There upon the bosom of the lake or stream they pass their short-lived day, their roots firmly fixed in the bed of the river or lake, and their beautiful blossoms reposing upon the dark green leaves, basking in the noontide rays of the sun above them. It has been said that at the moment when the sun sinks below the horizon the Lilies close their petals and retire beneath the water. This, however, is not strictly correct, for many flowers may be seen upon the surface during an evening's stroll by the margin of the water, although with contracted petals when the golden light of the sun has departed. Fit emblems of purity and faithfulness are these favourites of the stream. In America, Africa, and other parts of our globe, are Water Lilies of various colours, as red and blue, which float upon those far-off waters;

China, also, possesses a beautiful Water Lily called *Leenhwa*, it is very odoriferous. The *Lotus* is equally fragrant, a writer says of it, "Its flower is much valued by the Hindoos, and consecrated by them to one of their deities. Its leaves serve them for many domestic purposes, as they cover their tables with them, and eat their food from the smaller ones, while flowers and fruit are presented to the stranger in a simple basket made of the *Lotus* leaf." Moore evidently believed the tradition with regard to Water Lilies, for he thus writes of the *Lotus*—

"Those virgin Lilies all the night,  
Bathing their beauties in the lake,  
That they may rise more fresh and bright,  
When their beloved sun's awake."

The estimation in which these beautiful flowers are held, is fully corroborated by the fact, that no ornamental water is considered perfect without them. I remember in childhood's days the splendour of these *Nymphææ* at a gentleman's seat in Suffolk, and there also what magnificent Thorns graced the grounds, under which we girls and boys with several companions of our own ages, children of the neighbouring rector, came to spend a merry afternoon, our chief object being to gather bunches of *Mistletoe*, with which these Thorns were plentifully decorated. Having secured, with the help of our youthful gallants, as much as we could conveniently carry, we started off homewards. There a kind-hearted aunt awaited us with the genial cup of tea, her bright and happy face always portended good, and in her hospitable house was the kindly welcome for all who entered it. She, too, was a botanist. A love of Nature, and of her wonders and beauties, certainly softens our natures, and rubs off the rust and hard business-like tone which we should otherwise get in dealing with this working world.

But now, as we are sure to have a merry tea-party with "aunt," let us after our meal reach down from amongst her numerous books some which will enlighten us upon the plant which we have left under the verandah, for it must always interest us in connection with the ancient religion of this, our own loved country, and of the

"Druids, who whilst arms are heard no more,  
Old mysteries and barbarous rites restore:  
A tribe who singular religion love,  
And haunt the lonely coverts of the grove."

With a peculiar reverence the ancient Britons looked upon these, in those times, learned men, who combined the four important functions of "priest, magistrate, scholar, and physician." Their principal reliance, however, seems to have been placed on Nature's great prophylactics—temperance, cheerfulness, and exercise. These they earnestly prescribed to their patients as the surest means of preserving or restoring health. It is also to be mentioned, that they taught the people that no medicine could be efficacious without the Divine blessing. The practice of the Druids was simple and rational, and if it was of little efficacy, it was at least harmless. Their sovereign remedy, however, was our friend the *Mistletoe*, its name in their own language signified *heal-all*. It was on the sixth day of the moon that they sought the *Mistletoe*, which grew on their favourite Oaks, to which as well as the former plant, they ascribed a peculiar virtue and sacredness. The discovery of the *Mistletoe* was an occasion of rejoicing and solemn worship. "Preparations for feasting and sacrifice are made under the tree," says old Pliny, "they drive thither two milk-white bulls, whose horns are then for the first time bound. The priest then ascends the tree, robed in white, and cuts it with a golden sickle. It is caught in a white mantle, after which they proceed to slay the victims, at the same time praying that God will render His gift prosperous to those to whom He has given it. They believe, also, that it is a remedy against all poisons." Thus far do we learn to hold the old priests of our country in some reverence, as lights, though somewhat dim ones, in those dark ages.

The old custom of "hallowing largess" at the termination of the harvest, which is in use in the counties of Norfolk, Essex, and Suffolk, appears to me to bear reference to some of the old Druidical rites. I have seen no account of its origin in any book at present, and should be glad of some information upon this subject. The junior members of a family in the country generally look anxiously forward to the last night of the in-gathering of the treasures of Ceres, when the last load returns crowned with Oak boughs, and the weary workmen are rewarded by a hospitable table, groaning beneath the weight of beef, Potatoes, and other vegetables, pork, pies, and plum pudding; also, an unlimited quantity of beer, which is handed round during the feast and late into the night. Smoking and songs

succeeded the harvest supper, the opening and evidently legitimate one of the evening being—

"Here's a malster's good health, boys,  
And drink o' yer be-e-e-e-r,  
Here's a missus' good health, boys,  
She perwides us good che-e-e-e-r, &c."

You will perceive that the words beer and cheer are continued almost *ad infinitum*—in fact, as long as each singer has any breath left. Other songs follow, either in the sentimental or comic strain as may suit the tastes of the company assembled, or of the singer for the time being. The master, mistress, children, and dependants are generally present at these gatherings to offer their good wishes, and also contribute some substantial proof of their good will, in the shape of half-crowns, shillings, or smaller coin. The moon being fully risen a scene commences which always awakes in my mind a longing to fathom its antiquity and origin, certainly it is very impressive. On the lawn, or some convenient grass space in front of the house, are assembled our half-inebriated sons of toil, and from the hall-door or windows all the inmates of the house are gathered together to witness this curious spectacle. The men stand in a semicircle around the bailiff, or head man, who faces them, waiting reverently until he has thrown up his face towards the sky, shouting in his loudest tones, and pausing upon each word, as if invoking some unseen Deity, "Holla lar," "holla lar," "holla lar." Immediately he and the men around bow down their heads until they almost touch the ground, and all together utter the almost un-writable words, "Jah bah." This scene is enacted three times, and it is scarcely credible the distance which the sound of these largess gatherings can be heard. In the holy stillness of a summer night I heard the voices of two sets of men in different directions, one of them proceeding from a farm at a village four miles off across the valley.—ALICE.

#### REMINISCENCES OF AN OLD FLORIST.

I WELL remember Mr. Keynes telling us, at a florist's dinner, how he pawned his watch, unknown to his father, to buy his first collection of Pinks; but I managed it without that; and it is remarkable how, after more than fifty-two years, I could go to the garden where I grew them and point out the spot to a few inches. The leading varieties at that time (1813) were *Midshipman*, I believe, a red variety, and *Davy's Eclipse*, black and white. The Pinks of those days would now scarcely be grown as border-flowers. Mr. Bow, of Broughton, near Manchester, above forty years ago, became a Pink-grower, and, being a man who, by his own energies, had pushed himself into a position, turned those energies to flowers; and his gardener, under his directions, raised many Pinks, which for a time eclipsed those in cultivation, and led the way to greater improvement. Falkner's Duke of St. Albans became, as it was termed, a clipper, and eclipsed all the purple-laced ones for many years, until now it is consigned to oblivion, and I question if it could be obtained, although its only fault was serrated edges. At that period there were but few florists in the south, excepting Maddock, succeeded by Groom and Davy of Chelsea—all were principally supplied from the north, it being almost like a bee hive swarming with florists; and one Thomas was the collector or buyer for the southern growers, by which he made an independency, and retired. Pinks have now arrived at perfection, and they are nearly as large as Carnations. John Ball, were it not for the centre, which is called by the northern florists the "mooning" (that is, round as possible) being starry, which is a drawback, it would be perfection itself, as that is the only drawback it has. In 1822 there were forty-five varieties of purple-laced amongst the winners; and Turner's Prince Regent took 19 first and premium prizes, and Ardwick Beauty took 15, all of which are non-extant. The red-laced numbered 35 varieties, and Field's Fair Phyllis took the lead. The same may be said of them as of the purple-laced. The black and whites numbered 30, *Davy's Eclipse* taking the lead. Auriculas began to take my attention, and I purchased from Daniel Bradshaw, of Prestwick, near Manchester, a small quantity, and remember well that we had a large flag outside the summer-house, which served for various purposes, not quite a yard square. Under this flag, which stood on four pieces of wood, I wintered them for many years, and then they got at last a frame with glass for their winter quarters, but I did not observe that they grew any better.

It may probably be interesting to present growers to have

some particulars of this flower. Joseph Partington,\* seventy-three years ago, took the first prize, which at that time was twenty-one shillings, with Taylor's Victory—a green-edged variety, rather bare in the dust or farina, and not a dark green edge. At that period they were all of a pale green. Red-mayne's Metropolitan, a self, was introduced about 1780 by a florist named Tottle. It is generally supposed that it was stolen from some one in the south. One Heys, of Castleton Moor, near Rochdale, got it and sold it under the name of Apollo, by which name it is more generally known than its true one. He sent it to some distant place, supposed to be in the south of England, when it was sent again to this neighbourhood by some one else, under its proper name; but where the raiser lived is not known. It is a singular fact that many years ago it was so plentiful that it became a border flower (which many now living can remember), and sold at twopenny per plant. The Auricula was grown by Mr. Wrigley, of Langley Hall, near Middleton, in 1767.

In 1776 the principal varieties were Taylor's Victory (this variety in 1822 took three prizes—two fourths and one fifth); Siberon's Fame, light green edged; Foden's May Duke, green edged; Pott's Delegate, green edged; Clough's Defiance, green edged; Clough's Jangling Johnny, green edged; Kiding's Junius, grey edged; Ashworth's Man-of-War, grey edged; Hortaine, white edged; Hughes's Pillar of Beauty, white edged; Berry's Lord Lee, self; and Pope's Gardener, self. These were then considered very fine, but only three out of these are now in cultivation—Jangling Johnny, Lord Lee, and Pillar of Beauty. In 1822 of the leading varieties in green edges, Pollit's Highland Boy took 30 prizes; Stretch and Barton's King, 29; Buckley's Jolly Tar, 22; Rider's Waterloo, 16; Stretch's Alexander, 15; Lee's Colonel Taylor, 12; and Booth's Freedom, 9; and the prize list contains 55 winning sorts, but only nine besides those enumerated are now in existence.

The grey-edged class consisted of 52 varieties—the leading ones, Grimes's Privateer took 16 prizes; Kenyon's Ringleader, 14; Rider's Waterloo, 25; Taylor's Plough Boy, 13; Hey's Lovely Ann, 11; and Popplewell's Conqueror, 9; and about eight others that were grown a few years ago.

The white edged consisted of 31 varieties, Hughes's Pillar of Beauty, 38 prizes; Taylor's Glory, 33; Leigh's Bright Venus, 33; Taylor's Incomparable, 28; Pott's Regulator, 25; Popplewell's Conqueror, 16; Ashworth's Rule All, 14; and four others which were grown a few years ago.

The selfs consisted of 45 varieties—the leading ones, Red-mayne's Metropolitan took 39 prizes; Berry's Lord Primate, 34; Flora's Flag, 27; Schole's Ned Lud, 28; Whittaker's True Blue, 17; Grand Turk, 18; Lord Lee, 14. These are all that are now grown.

At Middleton, near Manchester, the Auricula was cultivated as early as 1725. The oldest varieties known are Rule Arbitrar, green edged; Hortaine, white edged; and Pott's Eclipse, green edged. The first and second can be traced as far back as 1757—one hundred and eight years ago, and the third to 1767, ninety-eight years ago. About the year 1785 the following varieties were introduced:—Grimes's Privateer, green edged, shown then in the green edged class; Popplewell's Conqueror, white edged; Grimes's Hyder Ali; Wrigley's Northern Hero, green edged; Walker's Goldfinch, yellow self, now known as Gorton's Goldfinch; Gorton's Champion, green edged; and Gorton's Stadtholder, yellow self.—JOHN SLATER, *Northenden, near Manchester.*—(*West of Scotland Horticultural Magazine*).

#### MANAGEMENT OF MOWING MACHINES.

VERY seldom have I found the knives uneven, but when so I think it was through a stone being caught between the cutters and the plate, and pressing one or more of these deeper into the cylinder, as I find every cutter is not set at the bottom of the groove cut for it in the cylinder. It is an easy matter for any smith to raise or lower any of the cutters as required. Should it be necessary to grind the cutters, the quickest way I have tried is oil and silver sand, screwing the cutters as near the plate as can be, and turning them the reverse way. This is quicker than using emery, but, of course, grinds the plate away very much, which hastens the end of the machine.

In the machines now made, there is no need of grinding.

\* This information I procured some years ago from the oldest and earliest growers living, some of whom were 88 years old, and became growers at the age of 14 years. The father of one died some years ago, aged 86 years, and his son John was 83 when he gave me the particulars, and was hale and hearty then.



As soon as the cutters are blunt turn them end for end, which is easily done in a few minutes. I have had one in use three years, and by reversing the cutters when desirable, it cuts as well now as when it first came.

I would just say, Never let the edge of the cutters or plate rust, always oil them when done working. We all know how much easier tools are to use, and how much better work we can make with them, when kept bright and clean. If the machines are expected to work easily, and do the work well, keep them clean and dry when not in use.

I have often heard said, "How hard the machine works! I had much rather used the scythe," when at the same time I have seen the machine after working run into the shrubbery, and there left without any protection. If a machine must be left out, have a board a yard square, elevated a little, to set the machine on, and with a square yard of oilcloth cover the working parts.

Use the best oil, and keep the machine thoroughly clean, by so doing it will work easier, better, and last longer.—W. C.

### DUCHESS OF BUCCLEUCH GRAPE.

MANY are the conflicting opinions in circulation regarding the qualities of this Grape, but the majority of these opinions have no foundation in fact. On the contrary, they have been picked up upon mere hearsay, and transmitted till that which is false has come to be regarded as true. I write not as the defender of the Grape Mr. Thomson has produced, but under the dictation of truth, which leads me to say that in more than one case its character has been assailed most unjustly, whether to serve interested purposes does not clearly appear; but whatever the motive, such procedure is unmanly, ungenerous, and unjust. Whatever may be the opinion of some, those who have made the acquaintance of this Grape will willingly admit that the flavour acknowledges no superior; and where this is held to be a desideratum it will always hold a prominent position. The Judges placed it equal to the Muscat of Alexandria at the Edinburgh International Show. A few days afterwards I had an opportunity of making the same comparison at Dalkeith, and can fully confirm the accuracy of that decision. I grow the Grape myself, and therefore speak with more confidence.

This is by no means an attractive-looking Grape, the berries being somewhat small, but this defect is covered to a great extent by the large size of the bunches, the vigorous constitution of the plant, and its productive habit; added to this, it submits to early forcing as freely as the Black Hamburg. The fruit does not crack like the Chasselas Musqué, nor shrivel at the stalk, which is frequently the case with the White Frontignan.—EXCULTPATOR.

### THE CULTIVATION OF THE MANGO FOR THE DESSERT.

As I have never seen any mention of this fruit in your columns, and as I have for some years past been most successful in its cultivation for the dessert, I trust that a few practical hints on the subject may not be unacceptable.

There is a common belief that this tree is most difficult to grow, and to this, in a great measure, may be attributed the neglect it has always experienced. I can affirm, however, from my own experience, that there is little more trouble in fruiting the Mango than in growing a Fine Apple, and I strongly recommend those who wish for an agreeable addition to their dessert to try their hand at growing it.

The Mango (*Mangifera indica*), grows most abundantly in India and South America, and is generally esteemed one of the most delicious of tropical fruits. The tree there grows to a large size, although here it seldom exceeds 20 feet in height. The leaf is not unlike a Walnut in size and appearance; the flowers are small and in bunches, of a pinky-white colour, and the fruit is about the size of a large Plum. At first it is green, but it afterwards becomes, if well ripened, of a deep orange,\* and the perfume is then most delightful. Outside, the fruit has a thick skin, and underneath a pulp which melts in the mouth almost like jelly; the flavour is exquisite, indeed, it must be tasted to be fully appreciated.

In growing the Mango it is important to remember in the

\* We once saw in India a variety, called the Malwa, which remained green when ripe, and was esteemed the most.—END.

first place, that success depends in a great measure upon having a very high temperature, the ordinary Pine stove hardly suiting it, as in winter it requires to be kept dry as well as hot. Indeed, the temperature of the house in which mine are grown is never allowed to sink below 80° in the daytime, summer or winter. When growing the trees require an abundant supply of water, which must be withheld when they are at rest. My mode of culture is this:—Early in February the tubs in which the trees are planted are thoroughly well soaked through with water, the flues of the house being sprinkled night and morning, and the temperature kept up to 85° by day and 75° by night, with a good bottom heat of about 85°. As soon as the trees show signs of growth the temperature is slightly increased, particularly when the sun shines, and the house is kept well moistened. Air is given sparingly until the blossoms show, when a little more is afforded in the day. A check, however, from cold air or wind is most carefully avoided, as it would be quite fatal to the future crop. As the days become longer so the temperature is increased to 100°, or never less than 90°. If, however, the blossoms should droop—a very common complaint—the house is kept rather cooler for a day or two, and less moisture given. In a week or ten days after the flowers open the fruit begins to swell off, and the greatest care is then necessary to insure a proper flavour. Air is admitted day and night in small quantities, and the trees are never shaded, no amount of sun doing them harm. As the fruit ripens less air must be given, and the house kept closer.

When all the fruit is cut no more water is given until the next spring, excepting a little now and then to prevent flagging. Unless this is attended to no fruit will be produced the next year, however well ripened the wood may have been. It is also of importance that the fruit should ripen when the sun's power is at its height, for although Mangoes may be had at almost any time, unless they are ripened between July and September they will have but little flavour.

If properly managed the Mango is a free setter and bears well. It is little liable to the attacks of insects, and is in general very healthy. It is very impatient of removal, and should be disturbed as little as possible. My plants are grown in tubs 2 feet deep and 30 inches wide, the soil I use is a strong loamy one by no means rich, but the trees are watered twice a week during growth with weak liquid manure, and the tubs are plunged during the spring and summer up to their rims in a bark-bed where they can have plenty of bottom heat. Young plants for the first three years should not be pruned-in, but allowed to have pretty much their own way.

If these few directions are carefully followed I feel sure the Mango will grow and fruit freely. From a tree only four years old I have this summer cut upwards of seventeen dozen fruit all perfectly ripened. Any one who has ever tasted this splendid fruit will, I am sure, agree with me that too much pains cannot be taken to obtain it in England.—J. H.

P.S.—I shall be happy to give one cutting next spring or summer to any person who requires it.

### ROSES OF 1864 AND 1865.

As the catalogues of Roses will soon be out, it may be a guide if I state the final result of my experience this trying season.

*Roses of 1864.*—Madame Victor Verdier, Pierre Notting, Lord Macaulay, Baronne Pelletan de Kinkelin, and Lord Herbert—these have been the cream of 1864. The next best have been George Prince, Eugène Verdier, and Leopold Premier; they are good Roses. The next best have been Madame Derreux Douville, La Duchesse de Morny, and Lord Clyde. The first eight are sure to please you. Select them as they stand. Buy as many as you can of the first two.

*Roses of 1865.*—Madame Moreau, Rushton Radelyffe, Duchesse de Caylus, Duc de Wellington, Mdlle. Amélie Halphen, Elizabeth Vigneron, and Général d'Hautpoul; these are seven superior Roses. The next is very dark, handsome, and free-flowering—namely, Souvenir de William Wood. If you buy these eight they are sure to please you. Buy them, if you select, as I have placed them. Three of these Roses I have not yet referred to in previous recommendations—namely, Madame Moreau, Elizabeth Vigneron, and Général d'Hautpoul. Madame Moreau is full-sized, full, and a splendid, large, crimson, show Rose. Elizabeth Vigneron is very handsome; the colour tender silvery rose, in the way of Laelia, but of better habit. It is full-sized. Général d'Hautpoul is rich,

velvety, dark shaded crimson. It is globular, handsome, and a free bloomer.

There are other Roses of 1865 that I think well of; but till they do well no man is justified in recommending them. It may amount to a national fraud. Roses may do badly the first year, and do altogether well the next season. Some require to be on strong stocks before they can come out in their true form. I fancy that King's Acre, Medina Celi, and Charles Margottin will eventually deserve a *testatur*. Considering that the Roses of 1865, with the exception of Rushton Radelyffe, came here this spring on very weak stocks, and were weak in themselves, I am surprised that they should have done so well. The Roses of 1864 were stronger plants, and wintered out of doors well. Things must be equal before you can draw a just comparison. —W. F. RADLEYFFE, *Tarrant Rushton*.

## FENNIAN SYSTEM OF SYRINGING WITH HOT SEWAGE.

WHEN I received "A BEGINNER'S" letter I had not sufficiently satisfied myself on a subject that was then under my observation, in connection with syringing orchard-house trees. To use to the foliage thick waters charged with anything but sweet odours, when the fruit is arriving at maturity, would be repugnant to our ideas. As regards red spider or any other evil affecting the foliage of my trees after the fruit was gathered, there was none, so healthy, clean, and green did the leaves appear; but just as I was about to rest upon my oars and banish all care in that direction, on the 16th of October a cloud appeared to envelope us, and a minute winged black aphid covered us, entering both ears, eyes, and nostrils most offensively, and I prognosticated disease for something under my charge. After the lapse of a few days, and although the air continued to be charged with the flies, I began to console myself for false judgment in this respect till a quantity of yellowish leaves caused me to look suspiciously on what I call the lungs of a Royal George Peach tree — viz., some shoots which I train outside on the end of the wall which forms the back of my lean-to orchard-house, merely for the sake of the leaves, because this tree, strong of growth naturally, is rather circumscribed for space inside. On a close inspection of the back of the leaves I found there were thousands of a winged black aphid, with their wingless progeny apparently of all colours, established and sucking away at the leaves so effectually, that at the slightest touch these fell off. To appearance the foliage of the trees inside the house was unaffected; but upon examination underneath I saw the plague increasing there also, so that prompt proceedings had to be taken.

About two gallons of sewage were heated in the evening to 160°, and with this I operated upon the "lungs" of the Royal George by directing the sewage from the syringe well beneath the foliage, and to prevent scalding my hand from the continuance of the heat, I counteracted it by only half charging the syringe at each dip. The force used in applying the liquid struck off the leaves most affected; but upon those retaining their hold and greenness I found, on examination next morning, that the above degree of heat had sealed to death nearly all the aphides and their progeny without, to my great surprise, having at all injured the foliage. That day was Sunday, so of course further operations were suspended till Monday, when at evening, and the foliage of the shoots outside showing no signs of being scalded, after two days' hot sunshine, several gallons of sewage were heated to 160°. I then closed all ventilation, excepting 3 inches at the apex at the back of the house, which is a permanent opening and is never closed; and the Peach trees against the wall, Nectarines, a Peach Apricot, and some young Vines in pots, along with a Prince of Orange Geranium in full bloom, and which was affected with the green aphid, were thoroughly syringed with the scalding stuff both over and under the foliage, and every cranny of the house besides, till the stone-coloured paint of the woodwork became stained of a dark oak colour. Well, it could not be helped, I was intent on an experiment, and during the operation I was several times obliged to burst into the open air to gain breath, in consequence of the dense hot steam being so powerfully charged with acid gas. I have ventilators opening from the back wall of the orchard-house into the vinery; these I closed, still the smell insinuated itself in there to such an extent as to cause me to remove some ripe Melons which I had cut and intended to remain there for a day or two, for there is no fruit more likely to acquire and retain a foreign odour than

ripe Melons. Everything looked particularly well in the house next morning, excepting the paint. There was not a vestige of stain upon the dark stone-coloured wall, and all the female aphides were dead, as well as the majority of their progeny. The Prince of Orange Geranium stood it out without even a petal being injured by the heat, and most of the green fly upon it were dead or dying. I fancied, also, that the paint did not look quite so dark. I opened the front ventilators and allowed the sun to beat strongly upon the glass and foliage without any shading, and not a leaf was injured. The smell during the hot sunshine would have been disagreeable to ladies, and, indeed, it would have been so for twenty-four hours to a man; but on the following day, it had in a great measure disappeared whilst the paint was certainly recovering its proper colour.

Feeling satisfied with what I had done so far, I concentrated my thoughts upon a young Ribston Pippin against the garden wall, and which, from the sowing of a Blenheim Pippin seed to raise its stem, then grafting the scion upon it, up to gathering its delicious fruit this autumn, has claimed part of my attention for eight years. It has been a consolation to me not to perceive a scab or speck upon it till this autumn, when it became affected with the American blight; and where these white fluffy insects are congregated, there they are laying the foundation for the dreaded canker on the best of Apples to a certainty. I had been thinking of painting all over the wood with train oil, but the success with which I had encountered the enemy before with hot sewage determined me to try it in this case also. The tree is horizontally trained, and I unfastened the shreds, excepting those at the extreme ends of the shoots, and kept the branches about 2 inches from the wall with some stumpy forked sticks so as to allow the hot sewage to reach the back of the wood as well as the front. I then syringed the tree well with the hot sewage at a temperature of 160° on the evening of the 20th of September, repeated the operation two days afterwards, and I am gratified to find that the American blight is more effectually killed in that way than its black compeer on the Peach tree. Although some of the leaves of the Apple tree suffer a little from so severe a scalding, being scorched and becoming brown at the edges, we may well be able to put up with that when we consider the good effected by getting rid of one of the worst of all blights. Whether the black visitor we have been pestered with this autumn is new to us I cannot say, I do not remember it before, and it has not injured any trees with me excepting those above mentioned. A neighbour called upon me, during my operations against it, complaining that almost all the leaves had suddenly fallen off his Peach and Nectarine trees, a circumstance which he could not account for, and to inquire if I had experienced anything of the sort with mine, and I explained to him the cause and the remedy which I adopted.

On the 21st of September I received from you the letter of "A BEGINNER" asking further advice on the subject of hot syringing. I could have answered him at a guess at once, but as a great many of my operations run out of what I may term the gardening groove, I am never in a hurry to recommend my practice to others till I am well satisfied that it has proved beneficial to myself, or so as to form a conclusion. I again inspected my orchard-house trees, and found that new colonies of the aphid were beginning to settle on the under sides of many of the leaves, so the whole of them underwent a thorough syringing as in the first instance. On the 23rd I saw that the female insects would persist in coming, and again I syringed the foliage with the hot sewage to the certain destruction of all the winged ones, but the cry was still "They come!" The foliage in the adjoining vinery seemed invigorated, and I fancied that the Grapes became more rapidly black. Visitors being expected, to make sure that no disagreeable odour should exist, I well syringed the orchard-house and trees on the 25th with clean water heated to 160°, and scattered a surfacing of fine dry soil over the soil of the house next morning, ventilated early, and set open the ventilators to the vinery; and, when the party visited us in the afternoon, the houses smelt fresher and better than if I had never applied any of the sewage water, but the foliage looked more grey and did not exhibit the rich glazed appearance which it invariably has after the syringings with sewage. At the third syringing the Prince of Orange Geranium leaves having exhibited signs of suffering, I moved it into the open air, and it is now insectless and flourishing.

The only flower with me that has been affected with this persevering aphid is a *Convolvulus major* against the wall of the house near the front-door, and having for its neighbour a *Gloire de Dijon* Rose. The leaves of the Rose, in consequence



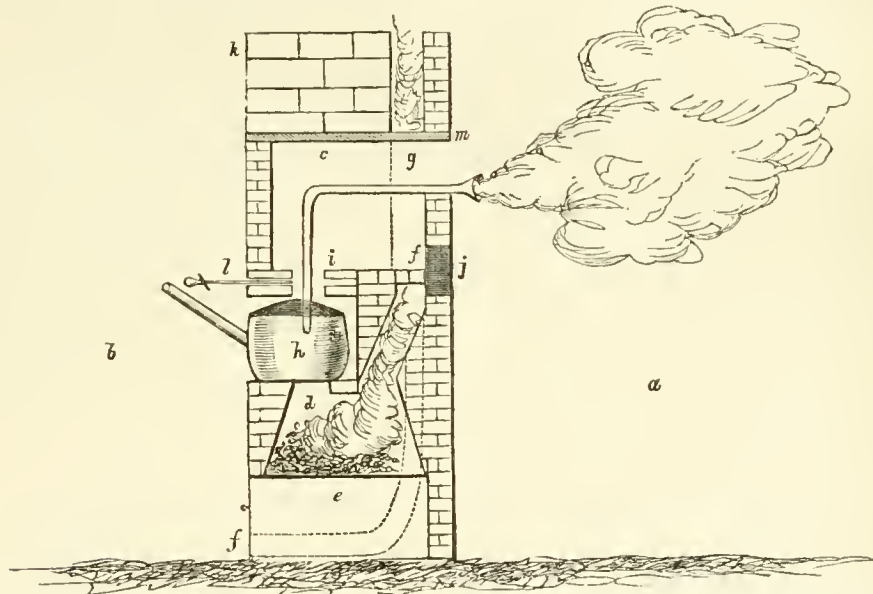
of my disinclination to use the hot strong-smelling sewage there, were being riddled by the roseleaf caterpillar, and, knowing that I had kept my Roses in the open free from that insatiable pest through the agency of sewage, I applied it to them at 160° well under the leaves, for both insects skulk beneath, and never appear upon the upper side. To two syringings the grub succumbed; but the aphides on the *Convolvulus* would come to be killed, and how the plant and its delicate flowers braved out the hot applications is a mystery.

After I had cut my Turner's Scarlet Gem Melons from the frame the plants and leaves remained perfectly healthy and green, as I ever wish to see them at those times. The leaves had never had a drop of moisture upon them, and as they were now done with I gave them a syringing with soapsuds heated to 150°. It had no effect. Two days afterwards I operated upon them in the evening with the sewage at 160°, and next day allowed the hot sun to strike the foliage through the glass unimpeded, as is my wont. The plants and leaves stood this severe test exceedingly well, and would even now prove capable of producing a second crop did not the lateness of the season preclude the idea.

At intervals of a few days I gave the orchard-house two more syringings; and now that the winged interlopers are on the eve of decrepitude from the cold I have desisted, and caused the woodwork of the house to be thoroughly scrubbed with soap and water, and the glass to be cleaned. The paint looks as bright as ever. I am now as proud of the healthy, gradually ripening foliage of the trees as I was of the fruit upon them. I will here give the periods of ripening in answer to the

general request made by the Rev. T. Bréchant. I gathered the Peach Aprieot from a pot in this locality (Woodstock, Oxfordshire), on July 29th; Royal George Peach from the back wall of the house, August 5th; and also from the wall a Peach which I will call, till I am better advised, the Alexandra Noblesse, because it is a seedling from the Noblesse which Mr. Rivers sent in lieu of the latter, and which at the time he strongly recommended. It is a lump of delight; as large, richer, and more conical in shape than the Royal George. It is a clingstone, pale, and partaking of a gentle blush. It began ripening on the 20th of August, at which date Rivers's Orange and Duchess of Oldenburgh Nectarines in pots gave us some ripe fruit.

To return to the letter of "A BEGINNER," I may state that the hot-sewage syringings applied directly the fruit is gathered, and at a temperature of 160°, are certain death to the red spider should the leaves be affected with it, and that is too often unfortunately the case; and we may conclude that they are so to most other insects as well, for with what will destroy the red spider when established anything else would stand a poor chance. From 120° to 125° is hot enough when the foliage is young and tender in the spring; from 130° to 140° from thence up to the swelling of the fruit; and from 180° to 190° after the leaves have fallen till the buds are on the move again. "A BEGINNER" says he has a considerable quantity of house slops, and he inquires "how" these should be diluted for the purpose of using them in the troughs, or "on" the hot pipes in a greenhouse or vinery, or for the syringing of orchard-house trees. I answer: The contents of a tank which receives



- a. Greenhouse.
- b. Back shed.
- c. Hot-air oven.
- d. Furnace.
- e. Ashpit and door.

f. Cold-air flues leading up to oven from shed. They are on each side of the furnace, 3 inches wide by 5 inches high, and their sides next the ashpit are 7 inches from the centre of the door.

g. Cast-iron elbow from furnace, in conjunction with the chimney-flue bent under the hot-air oven.

h. Liquid-manure sancepan and steam pipe. The recess to admit the sancepan is never closed, although, perhaps, a sliding door might be

placed there with advantage. It is 1 foot square. When the pot is not there, a foot-square firebrick is constantly placed over the six-inch top opening of the furnace, where the fire is fed, and removed and replaced by a small spade each time the fire is replenished with coke or cinders. I always use the latter. Coal should never be burned on account of the smallness of the chimney flue. Of course, on a larger scale coal incl might be used.

i. Opening for tin steam-pipe and hot air.

j. Brick to take out for the purpose of cleaning flue.

k. Stone wall, 2 feet thick, dividing greenhouse from shed.

l. Damper to be closed when steam is not wanted.

m. Large stone slab forming roof of oven, 4 feet 6 inches from the floor.

all the flowings from the closets and water used for household purposes may be safely employed either hot or cold to the roots, leaves, fruit, and even the flowers of plants; and that six parts of water to one of pure manurial matter is what I conclude to be the natural proportions of house sewage, provided no undue overflow of clean water from rain, or otherwise, has been allowed to flush into the reservoir. The "pure urine" in question is one of the strongest of manures, but by being diluted with six times its bulk of water it becomes safe and beneficial when applied to the foliage of trees and plants after the manner I have described, using a syringe with a rose-nozzle. To the query whether it may be used "in the troughs" or "on" the hot pipes in a greenhouse or vinery,

I answer, Yes, in the troughs; they may be filled with it in the evening, and emptied again the next morning. On the pipes I would not use it, for fear of their maintaining the smell. In preference, if the house is paved I would enter the liquid near the boiling point into buckets, and syringe from one bucket into another, which would soon raise in the house a cloud of pungent steam disagreeable to insect life, and quite sufficient for any foliage during the night. If the floor is of earth, like my own, I would simply syringe the hot liquid over it, and doing so would prove beneficial to the roots; at the same time clouds of steam would be raised for the foliage, and this mode of proceeding might be persevered in up to the ripening period. For a greenhouse the sewage would be best used

at periods when no ladies were likely to visit the structure for a few days.

I have a plan for steaming my "*multum in parvo*" here after this fashion. A portion was cut out of the back wall, an ash-pit formed on the floor, and some bars laid to form the bottom of the furnace, which is broader at the bottom than the top. It is formed of firebricks well set in fireclay, and a six-inch-square opening is allowed at the top for the purpose of lighting and feeding the fire. A flue is cut out and carried up and along inside the wall, and made flush with the inside of the greenhouse. An opening or recess is formed sufficiently large to admit of a two-gallon saucepan over the furnace; above that is a square oven; and from thence, opening into the greenhouse, a six-inch orifice is allowed. At the bottom of the oven an opening 1 inches by 6 inches is made so as to be just over the lid of the saucepan, which opening is made to be closed or kept open by means of a damper. A loose square firebrick is made to act as the lid of the furnace. Two flues are made on each side, opening from the floor at the ash-pit-door, and they are continued up on each side of the furnace into the oven, in order that whatever burnt air finds its way there from the furnace may be instantly mingled with the pure air rushing up by the side flues to meet it, so that it cannot at any time enter the house in such a state as to be prejudicial to the plants. When the cinders in the furnace have become of a bright heat; and the saucepan, which has been filled with sewage or plain water, as may be required, and boiled already on the kitchen fire, is brought to hand, the loose firebrick is removed, the pot slipped into its place, and the damper which closes the opening into the oven above is withdrawn. Then I step into the greenhouse, and slip down a tin tube made to fit into a hole in the lid of the saucepan; and by this tube the steam arising from the boiling liquid is conveyed into the house, filling it with vapour for a greater or less length of time, and varying in density as may be required. That is all the heating apparatus my greenhouse is fitted with. The furnace will burn anything. I never use any fuel now but sifted cinders, and I have with them kept all my plants perfectly well, and with little trouble or anxiety, through three winters, at a very small cost. The fire frequently continues to burn for twenty-four hours without being replenished. I can command moist and dry air in a very short space of time; and in consequence of the hot and cool air meeting and mixing in the oven, a powerful and healthy current is ever being created to pour itself into the greenhouse through the permanent opening. It is impossible for stagnation of air to take place. The hotter the furnace, of course the more violent is the rush into the house, for the ascending heat sucks up and compels the cool air of the flues to quicken its motion also. I do not know what the little apparatus would prove itself capable of as a healthy heating medium. I have pleasure in sending you a section of the plan.—UPWARDS AND ONWARDS.

[N.B.—We can assure our readers that the system now described and named has no relationship or allusion to the Fenianism of Ireland; and we only hesitated to publish the name, fearing it might cast upon it an air of ridicule, for "As absurd as Irish Fenianism" will hereafter be proverbial. The originator of the hot-sewage syringing is a Mr. Fenn.]

### GRAFTING GERANIUMS.

ALTHOUGH these directions are in reply to the inquiry of "A SUBSCRIBER, Marford," we insert them thus prominently because they are of general interest.

The most sure mode of grafting Geraniums is by approach or inarching. We have had upwards of twenty kinds upon one stock by this method. It is simply placing the stock near the plant furnishing the scion, and bringing the branch or shoot desired to the stock. Unite them at a smooth part of the stock by side or tongue-grafting. Bind them together with matting, and upon this place a little moss, and bind lightly with matting. They will be well united in six weeks; then cut away the part of the stock above the graft, and take away the plant furnishing the scion, having first cut the latter off just below the point of union. Inarching is adopted more for the sake of novelty than utility.

A wholesale plan of grafting Geraniums is to pot the stocks early in March from 60's into 32-sized pots, and plunge them in a bottom heat of 75°. In a fortnight they will have made fresh growth. Take off the scions as for cuttings, and as they have not been placed in heat the wood will be firm, which is

all the better, as it is to be united to the firm wood of the stock. Cut off the head of the stock, leaving a few leaves upon a side branch a little above where the scion is to be inserted, which cannot be too low. Prepare the scion or graft by making a slanting cut downwards an inch in length, bringing it out a little below an eye or bud. Make a corresponding cut in the stock, removing the wood nearly half way through it, and then both cuts must correspond. Make a tongue or slit upwards in the scion, and downwards in the stock, so that the one may fit into the other, as shown in the annexed engraving. Bind tightly but not very closely with a shred of bast mat, taking care that the outer edges of the stock and scion coincide at least on one side. A little moss placed upon that, and bound with matting, will keep the part moist and exclude as much air as is needed. In ten days loosen the matting, still keeping the scion bound to the stock, and close with the moss as before to keep it moist. When the graft begins to grow keep the matting loose, and cut away the upper part of the stock down to the graft, as shown by the bar in the engraving. It is hardly necessary to observe that the stocks should be retained in the bottom heat, and should have a moist and shaded atmosphere until the operation is known to be successful. Gradually harden off, and the plants will be fit to plant out at the end of May. Crown or cleft-grafting may also be practised, and when the stock and scion are of equal size is an equally successful and more expeditious method.



### CHRYSALIS OF DEATH'S-HEAD MOTH.

In your last Number, page 324, in answer to your correspondent, "A YOUNG ENTOMOLOGIST," you state that the chrysalis of the Death's-Head Moth "will not give birth to a moth before next July." Now, in the "Naturalist's Library," vol. iv., page 135, it is said that "The caterpillars are usually full-grown about the middle of August, when they bury themselves in the earth and form an oval cell, in which they undergo their destined changes. The moth seldom appears before the end of September," &c.—[We have had a moth at the end of July.—EDS.]

I have this year had three remarkably fine caterpillars of this Sphinx Atropos, which buried themselves in a large pot of earth in the month of August, and according to the terms of the above quotation I have been looking for the appearance of the moth; but from your reply it would seem that I have still some months to wait for the birth of this magnificent moth. I believe it is very difficult to carry it through its transformations. I keep the pot in my greenhouse under a bell-shaped cover of perforated zinc. May I ask you to have the kindness to say which is the correct period, that which you have given, or that which I have quoted from the "Naturalist's Library" above?—C. P.

### GRAPE VINE OF SANTA BARBARA.

ONE of the celebrities of Spanish California is the immense and beautiful Grape Vine now growing at the Montecito, two or three miles below Santa Barbara. The planter of the Vine was Donna Marcellina Feliz de Dominguez, of the earliest expedition to Sonora, before 1780. It was planted by her over sixty-five years ago, from a slip which she cut from the young vineyard at San Antonio Mission, in Monterey Co., for a horse-whip. Her husband had got permission to make a small garden near the warm springs of Montecito, a favourite place for the washerwomen of the new settlement of Santa Barbara, and here she planted it on the edge of a knoll. It immediately took root, and began to bud and leaf, and from careful attention, before she died, it was made to produce more than any known Grape Vine in all America, North or South. Between 1850 and 1860 it had trailed over some 80 feet in circumference, with a trunk of 1 foot in diameter, rising quite 15 feet from the ground. Some years it has borne over 6000 bunches of ripe and sound Grapes, or close on 8000 lbs., and become



the wonder of every resident or sojourner in that part of California; and what is more, for the last thirty years it has principally maintained the old woman and her numerous family.

Professor Silliman, when he visited it last year, said he had never heard of such an immense Grape Vine in any other country, which is saying a great deal, as he has travelled much in the south of Europe.—(*San Francisco Bulletin*.)

### ONE OF SHAKESPERE'S PLANTS.

In Act iv., Scene iv., of "Lear," Cordelia describes her insane father as

"Crowned with rank fumiter and furrow weeds,  
With hordock, Hemlock, Nettles, Cuckoo-Flowers,  
Darnel, and all the idle weeds that grow  
In our sustaining corn."

Some editors of this tragedy have accepted "harlock" for "hordock," and then concluded that Shakespeare meant what is now known as Charlock (*Sinapis arvensis*), but we believe that there is no need for a departure from the authority of those old quarto editions of the play which have the name "hardock." It seems to be the same plant alluded to by Lyly in his "Woman in the Moon," where Pandora, whilst deranged, says to a shepherd—

"Thy head is full of hediokes, Iphicles,  
So shake them off."

In the east of England the Corn Poppy is still called *head-aches*; and it is certainly one of the weeds most usual "in our sustaining corn," and most likely by its gay flowers to attract a madman's notice.

The same name "headaches" is applied to the Corn Poppy in the Irish counties Carlow, Wexford, Waterford, and Wicklow, where its flowers "are particularly obnoxious to females, the more so to unmarried young women, who have a horror of tonching, or of being touched by them."—(*Notes and Queries*.)

In Scotland it is called *head-wark*. In "The Complaynt of Scotland," published in 1548, it is spelt "hedeverk," signifying head-ache, as does the Northumberland and Lancashire "head-wark." The East Anglian pronunciation of the words would be "head-erk," for the w is slurred over; wood being pronounced ood, and this is a very near approach to Lyly's "hedioko." There seems but little difficulty in perceiving that this name, "headaches," was applied with reference to its soothing quality, and consequent power to remove disorders of the head. Many other names of plants are similarly derived, such as Feverfew, Scurvy-grass, Flix-weed, &c.; and from the shape of its seed-capsule it would be the more readily accepted as a remedy for head complaints in those days of symbolic pharmacy, when a plant, or part of a plant, was considered as marked out as applicable to the diseases of the part of the human frame which it resembled in form. Gerard, among other qualities, enumerates that "greater force is in the knobs or heads which do specially prevail to move sleep, and to stay and remove distillations and rheums." The leaves boiled in water, and "the head, feet, and temples bathed therewith, it doth effect the same." Yet others of the old herbalists warn against the continued use of preparations of the Poppy, because of its then causing derangement and insensibility—whence Pandora's warning to the shepherd.—J.

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

MAKE it a rule never to allow the haulm, leaves, &c., of plants to remain on the ground when the crops are gathered; a convenient place outside the garden should be appropriated for the garden refuse; and as the leaves, &c. are wheeled to the heap, let a sprinkling of ashes or charred refuse be placed over each layer, by which means a heap of valuable manure will be formed. When the ground is dry proceed with digging up vacant spaces, throwing it into ridges that the land may the more effectually be exposed to the influence of frost. It should also be a rule to double-spit or trench land each alternate year at least; but when two crops are taken off the same piece yearly, trenching should alternate with digging each time the ground is cropped. *Artichokes*, cut down any remaining flower-stalks, remove a few of the large outer leaves, and cover the roots with dry litter or old tan; it is a common but erroneous plan to earth them up with the soil between the plants. *Beet*, take up the roots carefully, and having divested them of leaves preserve them in sand in the same manner as Carrots. *Broccoli*,

this is an excellent period for laying spring Broccoli. It is best performed by two persons, one on each side of the drill or row. Keep a good trench and sink all the heads to the north, burying the stems in soil up to and even amongst some of the lower leaves. *Cucumbers*, keep them securely tied to the trellis, and the shoots stopped as recommended, slightly syringe them every fine day, and give air at all favourable opportunities. *Dwarf Kidney Beans*, another sowing should now be made. Keep the first crop duly supplied with water. This must be particularly attended to when they are in flower, for if allowed to become dry at that time, the whole of the blossom will fall off without setting. *Lettuce*, give air at every favourable opportunity, more particularly to the young plants. The Cabbage varieties intended for winter use will not need it so freely. *Mushrooms*, take advantage of wet days for making fresh Mushroom-beds and clearing out those that are spent; also, collect and prepare droppings for forming fresh beds, by spreading them in a shed and turning them over every day until they are sufficiently dried to prevent excessive fermentation after putting up. *Parsnips*, it is generally more convenient to have them taken up and stored in the root-cellar than to dig them up as wanted. Taking them up should, therefore, be immediately attended to. *Potatoes*, in mild and favourable situations a few may be planted to come in for early use, but there are few places where this can be practised with safety. *Rhubarb*, the forcing of this and Sea-kale must soon be attended to, and where there is a good stock of strong roots, a supply will be easily kept up. The Mushroom-house when there is room, forms a very suitable and convenient place for forcing them. The roots should be placed in a slight hotbed of warm dung, filling up the intervals between them with old tan, or the soil and manure mixed, from an old Mushroom-bed, giving a good watering to wash it in amongst the roots. The bottom heat should not exceed 70°, as too much heat is not favourable to securing strong growth; but except for the first crop it may be dispensed with altogether. *Scorzonera* and *Salsify* may now be taken up and preserved like other culinary roots.

#### FRUIT GARDEN.

Now that the summer's business is fairly at an end, it is time to take steps to provide against an inordinate pressure of business in the forthcoming spring, for any arrears of autumn or winter business at that busy period will prove a great hindrance to the carrying out a properly-devised system through the ensuing season, and can only be justified on the ground of necessity. Planting, pruning, training, trenching, &c., are matters that belong peculiarly to the dormant period. The habits of fruit trees vary, more especially as to the manner of forming and exhibiting their buds. Thus there is no difficulty in distinguishing the bearing portions of the Apple or of bush fruit in general, whilst the Apricot and the Filbert are at this period somewhat obscure in regard to these points. Even in the Pear, more especially in some of the newer kinds, and such as the Passe Colmar, the Seckle, the Marie Louise, and some others, it is difficult to prune with safety in the early part of winter. For these reasons, therefore, prune bush fruit the moment you can find time. Follow closely with Cherries, Plums, and Apples, and towards Christmas lay aside the knife until the early part of February, when the Filberts will be blossoming, then after a slight thinning of the crowded and inside spray, male catkins may be brought if requisite, and suspended among the bushes. By this time the true blossom-buds of the Apricot may be distinguished with certainty, and the trees may, therefore, be immediately pruned. The Peach and Nectarine will succeed the Apricot, and these may be followed by the Pear, and lastly by the Fig. In pruning bush fruit, thin liberally. Let no two branches in the Black Currant and Gooseberry touch when finally thinned; these seldom require shortening, an equal and judicious thinning is everything here. In pruning Apples the thinning of the branches or old wood should be the first step. This, however, requires caution. The late Mr. Knight, of Downton Castle, was much opposed to cutting out large limbs, unless a strong necessity existed. In thinning the young wood of espaliers, the first point is to secure a free admission of light to all parts of the tree.

#### FLOWER GARDEN.

Chrysanthemums will soon be in flower here, let them be tied out so as to display their blossoms to the best advantage. Fuchsias and such things, if not already protected for winter, must soon receive attention. Dry fern is an excellent material for covering the stems, &c., of plants that require a slight protection in winter. The Dahlias must be marked and numbered



forthwith. Let all bulb-planting be completed immediately. Planting evergreen and deciduous shrubs may now be performed with every chance of success. Be very careful to secure transplanted shrubs against wind, especially if large; these should never be left until they are properly staked, or otherwise made fast, for when this is put off it frequently happens that the roots are injured in consequence of the tops being rocked about by the wind. The weather has assumed an aspect so decidedly wintry, that further hope for the lingering beauty of the flower-beds can scarcely be indulged in. Roses may now be transplanted, preparations should be made to receive such subjects. Fresh loam, rotten dung, and burnt earth, form an excellent compost. Hardy creepers should be examined at this season, and all unnecessary spray removed, and their security from the blasts of winter ensured. Examine stakes and ties generally. As soon as the greater part of the leaves are off the trees, let the pleasure ground be thoroughly cleaned and swept; the leaves if in sufficient quantity should be stacked up for forcing-purposes, covering the borders, and the like. Such parts of the lawn as are near the house should be swept daily to remove leaves and wormcasts, and the gravel-walks should be frequently rolled to preserve a smooth surface. The present is a good time for re-arranging the herbaceous ground, a work which is rendered necessary every two or three years by many of the free-growing plants becoming too large.

#### GREENHOUSE AND CONSERVATORY.

As the beauty of out-door scenery yields before the storms of autumn, the conservatory should be made as attractive as possible, as it will now become in some respects the only place where flowering plants can be inspected with comfort in unfavourable weather. Let the requisite arrangements both as regards watering and changing the plants take place early in the day, that the effects of watering, syringing, &c., may be removed, and an agreeable dryness pervade the house, before it is visited by the family. No pains must be spared to keep the house gay, by introducing plants in succession as they come into bloom, including a portion of the stove plants which have been grown expressly for this purpose. A little gentle forcing will bring the different varieties of *Epiphyllum truncatum* in bloom, and with the addition of *Chrysanthemums*, late *Fuchsias*, and *Pelargoniums*, *Pancratiums*, *Amaryllis*, *Mignonette*, *Neapolitan Violets*, &c., a tolerably gay appearance may be maintained until the time when forced plants shall be more generally available.

#### PITS AND FRAMES.

Have straw shutters, or whatever else it may be intended to use for coverings for these, put in readiness for use without delay. Straw shutters if well made are expensive in the first instance, but are considered by many to be the most efficient of any kind of covering in use, and taking into account the time they last, they are, perhaps, as cheap as any. Expose the stock freely to air on every favourable opportunity, so as to check growth, and get the wood firm.—W. KEANE.

#### DOINGS OF THE LAST WEEK.

RAINS have now come in earnest, filling the pools, water-courses, tanks, &c., and with the winds, tending, we hope, to purify the atmosphere and render it more healthy for man and beast. Our tanks are now full, which they have not been for the last three years, and with more means of saving it, there would be a large quantity of water that might now be stored up. Such another season as 1864 would render gardening next to an impossibility, where nothing but rain water could be depended on. It has set people husbanding water by various means, who never thought of doing so before. For several days work out of doors has been pretty well at a standstill, which gave a needful opportunity for overtaking much in-doors work, as roping Onions, cleaning sashes, washing pots, making sticks and tallies, clearing and greatly reducing climbers in greenhouse and stove, that light may be admitted in winter; washing shelves, stages, inside of glass, &c., preparatory for the arrangement of plants for the winter. A few of the most tender *Geraniums* have been taken up and placed in a shed until we find time to pot them, and place them in a suitable position. Such pruning and thorough washing now, and when the glass is dry a good smoking with tobacco or laurel leaves before the plants are set in, will tend to keep all clear of insects for the winter.

#### KITCHEN GARDEN.

Here very little has been done, except roping Onions in wet

weather, and tying-up and earthing-up a little more Celery on a dry afternoon. Notwithstanding the heavy falls of rain the ground is still dry at no great depth, and we have observed in consequence few drains at all deep that have yet begun to run; the excessive heat dried the ground to an extent that we scarcely ever noticed before, and yet most vegetables thrived very well, no doubt by pumping up moisture from great depths.

Did we anticipate frost soon we would lay the tenderest *Broccoli*, as the leaves appear more than usually juicy and robust, the very circumstances in which frost would do them the most injury. In performing this work it is best to lay the tops to the north, and the next best is the east, so that the sun during winter may strike very little on the centre of the plant. Supposing that the rows run north and south, the following is the simple mode of operation, choosing a dry day for performing it:—Begin at the north end of the row, take out a spadeful or two of earth on the north side of the plant, without coming too near the roots; bend the plant to the ground and partly in the opening, then move earth from the second plant and place it over the stem; do the same with the second and all the rest until the row and piece is finished. We generally take a number of rows across at a time. The above mode and a sprinkling of litter over the heads will save the crop in most seasons. When the *Broccoli* plants are wide apart, say a yard, or one to 4 square feet (as some of our best growers do, but which is seldom done in a gentleman's garden, because, in addition to scarcity of room, the huge heads would not generally be liked on the table, except in the servants' hall), then in addition to a slight laying to arrest free growth, more earthing-up could easily be given so as to thoroughly protect the stems. The putting the heads in a slanting position to the north not only protects the centre better and keeps it more free from moisture, but even if frosted, it thaws more gradually, because the sun cannot act directly upon it. On this last account alone we have noticed one row thus laid down pass scathless through the winter, whilst a row of the same sort standing upright had almost every centre rotted out and destroyed.

Cauliflower being more tender must be protected, and the easiest way is to take the plants up as the heads approach perfection, and keep them in sheds and frames. Without this taking up they may often be had pretty well up to Christmas, in mild seasons, by breaking a few leaves from the cut heads over those coming on, and using a little litter over these on the first frosty nights.

*Mushrooms*.—We have just spawned a small bed in the Mushroom-house, and would have had more preparing but for scarcity of material. The beds in the shed are still doing good service. The spawn used was chiefly what was made lately, and which has given us little trouble, as it was mainly set on a shallow bed of litter, and covered over with the same, for the heat of the atmosphere was pretty well enough to make it run. The litter had been so beaten down with the first rain that little water seemed to penetrate, or we should have required means to have kept the spawn dry; it will be better to remain a week or two longer, though what we used was very good. When a good large heap is made it is rare that all the pieces will come in at the same time—at least, we generally select the best spawned once or twice before we house the whole. Wherever housed it should be kept dry and cool before using it. If the place is very open over-dryness may be prevented by covering with a mat or two or a little loose litter. A shed which is made at all warm and dry from a fire or stovehole is not a suitable place, as there it would become too dry; but such a place would do very well if the shed were large, and kept rather open. If the spawn is kept rather moist and hot it will waste itself in producing little *Mushrooms* all over. When once the piece is permeated by the small, very small, hair-like white threads, these should be prevented growing more by being kept in a state of rest until they are wanted to plant the bed from which the *Mushrooms* are to be gathered. Even then a slight excess of heat and moisture will destroy the spawn, and too much dryness in the bed will be almost sure to give you small dried-up *Mushrooms*.

Only a few can obtain the most suitable material, and that in the most suitable condition for a Mushroom-bed, but provided the temperature be all right, from 70° to 80°, at the time of spawning, we can greatly modify other matters to suit our purpose. For instance, if the bed is rather damp, we wrap each piece of spawn in a good handful of dry, short litter, containing a very little dried horsedung, and insert it firmly in the bed, the litter just appearing above the surface. If the bed is warm enough, but rather dry, we know the spawn



will run in it, but to give the Mushrooms substance we cover the bed with an inch of fresher damp material before putting the earth on. In making beds in winter, the material is generally apt to be too wet. We would rather have the bulk of our beds made before winter; but all the year through we want all the horsedung we can obtain. In winter, when our materials altogether are wetter than we like, we cut some dry litter or a truss or two of dry straw into lengths of from 1 to 2 inches, or more, straw in proportion to the size of our heap, and when well mixed and blended we thus have the heap when it heats a little in that desirable condition, when it is neither too wet nor too dry.

We question if we should have mentioned these little matters so much in detail, but for the fact that we have had several letters of thanks respecting the dry-litter-and-cut-straw plan, and because in our young days we had, under the direction of others, a little to do with Mushroom failures arising from totally different causes. In the one case the Mushrooms were attempted to be grown in a close, roof-ceiled shed, without any dry heat. There the beds were chiefly made of a good size, from fermenting material prepared as for a Cucumber-bed. In every case in which we saw the beds made, we are now sure the material was too wet, and this was increased by placing a heap of such fermenting material in the house in winter to keep up the heat. Very few Mushrooms ever came out of that house. Prizes were taken for Mushrooms, but in all cases that we were aware of, these came from borders inside the forcing-houses, unbidden, and, therefore, with no credit to the cultivators. With materials drier, spawned in the usual way, and the beds covered with a little litter or hay, such a shed would have produced Mushrooms as plentifully as some of our friends now have them in a spare stall in their stable.

In the other case, the failure was just from the opposite cause. The Mushroom-house was a lean-to, to the north, with a flue against the north wall, and three or four tier of shelf-beds against the south wall, a glass house being in front on the other side. Droppings of horses and soil were chiefly used. These droppings were carefully dried in open sheds, turned, dried, and turned, and dried until their virtue was pretty well dried out of them. Such very dry material was put in the shallow beds, in very shallow layers, and every layer was beaten so hard, that if there had been enough of operators the moisture that dropped from their faces would have done something to moisten the beds. There was little difficulty as to the spawning, as the extreme of dryness, and the extreme of firmness generally prevented the beds heating overmuch. The dryness of the beds, and the dry atmosphere from the flue, rendered the gatherings of the little buttons few and far between. Large, bonnet-headed, juicy fellows for frying were never seen at all. With the material a little more moist, not quite so firmly beaten, and moisture thrown along the floor in winter, or evaporating-pans in the flue, the beds should have produced freely, and with a tithe of the labour and preparation.

Here we ought to mention one thing more as one of the minor causes of disappointment. Most of these shelf-beds were made during summer and autumn, and were spawned shortly after they were made, but were earthed-up at the certain number of weeks before they were expected to produce the crop. No Mushrooms were attempted to be grown in summer, the most difficult time for cultivating them. Now, we have often thought, that even if the spawn run in the beds it might almost waste its strength there, and from the dryness, &c., be unable to make a fresh start through the soil. Be this as it may, we have made it a general rule not to spawn a bed so very long before we earth it up, so that the spawn shall have a chance to run both ways. We should like very much if we had the material for several beds, instead of one piece, now in our Mushroom-house; but if we had it we would let it lie so loosely as not to heat much; or if that would not do, we would firm it to keep out air—the great cause of fermentation, of heating, and wasting away; and then we would turn it a little, and add a little fresh, just to increase the temperature before spawning and earthing-up. We have done a good deal with large beds out of doors, covered up to keep them at the right temperature, and have gathered long and plentifully; but to keep up something like a moderate constant supply, we do not know if anything beats small shallow beds, say from 12 to 18 inches deep; and where the material is scarce, as with us, a little bit can be made when a large bed could not be thought about. Over-heat, over-dryness, and over-wetness of material we consider the chief causes of failure; and in shallow beds, as a minor cause, we would name the spawning a bed months before it was

earthed-up. We should be glad to have the opinions of others, based on their practice and observation, as to the spawning of beds, say from one to three months before earthing them up. By such a plan many beds might often be finished, except the earthing-up, early in the autumn, when the material is so much more easily dried. Our own experience would lead us to the conclusion that beds on the whole do best that are earthed over only a few days after being spawned. This earthing may take place after spawning as soon as there is the least sign of the temperature of the bed falling, say, below 75°, as the soil itself, from being rather cool, will help to cool the bed, and the firming of the soil, from keeping out the air, will cool it still more. If there is no mode of heating the place, a good plan is to cover the bed to keep the heat in. As soon as the spawn is working the heat of the bed will again increase.

#### FRUIT GARDEN.

Had we the material we would have protected the Vine-borders from the continuous wet, but as they were rather dry it will do them less harm, more especially as it is still warm. A little litter over the borders now will prevent the heat of the earth escaping so freely, a matter of importance in early houses. Figs are still bearing well, and as the sun has been propitious they are pretty good in flavour, but ere long we must cut off the most forward fruit in the house, as, when the plants bear early, and also very late, the first crop in the succeeding season is apt to be much injured. Fig trees out of doors may have all the green fruit cleanly and neatly cut off that are larger than the largest Peas. Those smaller may be kept safely through the winter with a little protection, and will come in earlier than the smaller ones just showing. Strawberry plants in pots should, for want of better protection, be laid on their sides in such weather. Forced plants of last spring have yielded some fine dishes this autumn. They should be fastened up with small twigs, as otherwise in damp weather slugs and snails will have some of the best of them. We wish now that more of our Apples and Pears had been safely housed. However, we shall soon have a dry day or two; we would then, also, rough-prune many fruit trees, Raspberries, &c., before the winter. In the orchard-house we have now little left except Plums, which are still very good. Nipped a few decaying berries from Grapes in later houses, and put a brisk fire on during the day, with a fair amount of air at the top of the house, allowing the fire to go out at night. Will take the first chance to have all furnaces properly cleaned before the winter sets in. Fruit trees in pots now receive but little water, as, in such dull dripping weather, if they have but little water at the root the leaves and stems absorb nearly as much as they perspire.

#### ORNAMENTAL DEPARTMENT.

*Lawns—Mowing Machines.*—The answer about sharpening knives of machines, at page 316, is just the same as the plan we alluded to a month or two ago. We are glad that Messrs. Green have alluded to the simple plan in their machines of merely changing or reversing the ends of the cylinders. We found out this simple but grand secret as much by chance as anything else, and had we known or thought of such a simple process would have resorted to it earlier. It answers admirably, and renders all modes of sharpening the cutters unnecessary. On a part of the lawn not much in sight, and where the grass had not been cut for six weeks, we mowed in the mornings when suitable, as we want this long grass and a few fallen leaves to mix with long litter from the stables to make a fermenting-heap, giving us a little heat to help on with many things now. We have no hesitation in using such grass as a component in all sorts of fermenting-heaps for giving heat, except for Mushroom-beds, and if we used it at all for them it would merely be for the bottom of such beds. Such a heap as the above will be useful now for many purposes, and especially for giving a start to large Geraniums, &c., taken up from the flower garden.

From the beds we have as yet taken nothing but a few tender plants. For cuttings, &c., under glass in cold frames, we have run over all the old glasses, filling up holes, &c., and will finish washing all the glass as soon as the weather is suitable. We have commenced inserting *Calceolaria* cuttings in a cold pit, in the manner described in previous years, only we made sure this year that above a couple of inches of rough leaf mould and riddlings of loam there should be 2½ inches of fresh sandy loam from the roadsides, and a quarter of an inch of road drift sand over all. In this the cuttings are dibbled at about 1½ inch apart, and being watered they will need little more but air every night when mild, and a dewing from the syringe on a

very sunny day. We shall give them pretty well to Christmas to strike, and if not hurried, and the cuttings are sound, scarcely one in a thousand will fail. Owing to the heat, and very free blooming, the cuttings of many kinds are scarce. What we like for cuttings, are short, stubby, side-shoots, not showing bloom, taken off close to the older stem, when they are from 2 to 3 inches long. We generally take off the lower leaves, shorten the top ones, cut the bottom with a sharp knife, and pull every handful through soap, Gishurst, tobacco, or quassia water. After such a season the eggs of red spider or green fly are apt to be on the cutting though not seen, and the swinging through the water will help to remove the eggs, as well as settle any little insects that may be alive. If kept all the winter in such cool quarters, insects will not be likely to meddle with them, unless they have gone into the pit with the cuttings. Coolness alone will destroy many insects. From some experiments we once made we are inclined to believe that that is the best mode for eradicating that pest of our hothouses.

**Mealy Bug.**—We agree, therefore, in the advice once given to the possessor of a valuable collection of tropical plants, of which the destruction was threatened by their mealy-coated enemies. The advice was to take all the plants out of the house, to wash all the stems and heads in tobacco and soap water; to keep the plants in another house, as cool as to be within the point of safety, washing and rewashing them; to expose the old house to a sharp frost; to wash the whole, walls, stages, &c., and every crevice with turpentine water, and when dry to paint or whitewash the whole. Whilst that was being done the plants were to be turned out of their pots, shaking away every bit of earth, and washing the roots, and repotted in fresh soil in smaller pots. The heat in their old quarters would soon cause them to make fresh growth, and it is hoped that the insects would not trouble them for some time. All the labour would be next to in vain, unless the house was well frosted, as, protected though the insect is by its woolly covering, it is very sensitive to cold.

But for the weather would have planted out Pinks struck during the summer. If not done soon they had better be potted and receive a little protection during the winter, giving them plenty of air, but protecting a little from heavy rains and severe frosts. If planted in time to make fresh roots, hardly anything will injure them, except slugs, and rabbits and hares, which will soon clear a bed off. Carnations and Picotees are almost as hardy if planted out early, but now they will keep better in pots. Auriculas, Polyanthus, and the finer Primroses in pots, should have the pots cleaned, fresh surfaced, and receive all the air possible in such mild weather, but be protected from such heavy rains. The best mode is to prop up the sash at the four angles, so that there shall be a clear sweep of air all over the plants. Chrysanthemums in pots, even to bloom late, had better be taken in-doors, or under such protection as, though open, will keep the drenching rains from them, otherwise when the plants expand their bloom the leaves will be likely to be troubled with mildew, and thus be made unsightly. As soon as the flower-beds are cleared preparations should be made for bulb-planting, and if that cannot be done early enough, the bulbs may be set in boxes in leaf mould, so that they may be planted with roots, or may even be placed in small pots to bring them on a little.

Ixias, Sparaxis, Oxalis, Cyclamens, &c., now showing growth should be potted, and allowed to grow on slowly. The fine, small-flowered Tropæolums that have been resting in dry earth and sand, should also be potted as soon as they begin to start into growth. A good plan is to pot first in a small pot—say one of 6 inches in diameter, using loam and peat, with a little sand, and grow in that until the shoots are a foot or more in length, and then turn out into a large pot of 12 or 15 inches. Apply the trellis, and train at once, using similar soil, with a fair amount of dried, sweet cowdung in small pieces, and water very carefully until the roots begin to fill the pot and get round the sides.

It will be advisable to take all Camellias, Azaleas, and hard-wooded greenhouse plants under glass. For Primulas, Cinerarias, &c., see previous weeks.—R. F.

#### TRADE CATALOGUES RECEIVED.

Thomas Rivers & Son, The Nurseries, Sawbridgeworth, Herts.—*A Descriptive Catalogue of Fruit Trees*, by Thomas Rivers. *Catalogue of Roses* (Thirty-second edition).

#### COVENT GARDEN MARKET.—OCTOBER 21.

We may now say that some diminution has taken place in the supplies. Apples and Pears have very much fallen off, and vegetables are only sufficient for the demand. Potatoes are brought in much better condition, and the supply is still heavy.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples..... $\frac{1}{2}$ sieve	1	0	0	2	Melons..... each	4	0	10	7
Apricots..... doz.	0	0	0	0	Mulberries..... punnet	0	0	0	0
Cherries..... lb.	0	0	0	0	Nectarines..... doz.	0	0	0	0
Chestnuts..... bush.	16	0	0	0	Oranges..... 100	10	0	20	0
Currants, Red $\frac{1}{2}$ sieve	0	0	0	0	Peaches..... doz.	15	0	20	0
Black..... do.	0	0	0	0	Pears (kitchen)..... doz.	1	0	1	6
Figs..... doz.	1	6	3	0	desert..... doz.	1	0	2	6
Filberts..... lb.	0	9	1	0	Pine Apples..... lb.	6	0	8	0
Cobs..... 100 lbs.	120	0	140	0	Plums..... $\frac{1}{2}$ sieve	2	0	4	0
Gooseberries..... $\frac{1}{2}$ sieve	0	0	0	0	Quinces..... $\frac{1}{2}$ sieve	3	0	4	0
Grapes, Hambro..... lb.	1	6	4	0	Raspberries..... lb.	0	0	0	0
Muscats..... lb.	3	0	6	0	Strawberries..... lb.	8	0	0	0
Lemons..... 100	8	0	14	0	Walnuts..... bush	14	0	20	0

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	each	0	4	0	6	Leeks.....	bunch	0	3	0	0
Asparagus.....	bundle	0	0	0	0	Lettuce.....	per score	0	9	1	6
Beans Broad.....	bushel	0	0	0	0	Mushrooms.....	bottle	1	6	2	6
Kidney.....	1/2 sieve	2	0	5	0	Mustd. & Cress, punnet	0	2	0	0	0
Beet, Red.....	doz.	2	0	3	0	Onions.....	per bushel	3	0	5	0
Broccoli.....	bundle	1	0	2	0	Pickling.....	quart	0	0	0	6
Brus. Sprouts.....	1/2 sieve	2	0	0	0	Parsley.....	1/2 sieve	1	0	1	6
Cabbage.....	doz.	0	9	1	6	Parsnips.....	doz.	1	0	2	0
Capiscums.....	100	0	2	0	0	Peas.....	quart	0	0	0	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	6	4	0
Cauliflower.....	doz.	3	0	6	0	Kidney.....	do.	5	0	4	0
Celery.....	bundle	1	0	2	0	Radishes doz. bunches	0	6	1	0	0
Cucumbers.....	each	0	6	1	0	Rhubarb.....	bundle	0	0	0	0
Pickling.....	doz.	2	0	4	0	Savoy.....	doz.	0	9	1	6
Endive.....	score	1	0	2	0	Sea-kale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	0	Spinach.....	bushel	2	0	3	0
Garlic and Shallots, lb.	0	8	0	0	0	Tomatoes.....	3 sieve	2	0	2	4
Herbs.....	bunch	0	3	0	0	Turnips.....	bunch	0	4	0	6
Horseradish.....	bundle	2	6	4	0	Vegetable Marrows dz.	1	0	2	0	0

#### TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

**GERANIUM FLOWER AND LEAF (F. H. N.).**—We do not see anything uncommon in them. They may be from a plant that would be a good bedder, but that would entirely depend upon its habit.

**PROPAGATING VARIEGATED HOLLIES AND IRISH YEW (F. G.).**—Graft the variegated on stocks of the green-leaved Holly, removing a little of the soil around the stock, so that the graft can be inserted a little below the surface. Put in the scion by whip grafting, and when the stock is just commencing to grow, which usually is towards the end of April. The scion being fixed in its place by a figure of matting, and the usual covering of clay (full directions for grafting are given in the "Science and Practice of Gardening," page 244), cover the grafted part with soil, drawing this towards and placing it against the stem so as to cover the union completely, but leaving the scion with a few inches of its length exposed. By midsummer the scion will have taken; remove the soil, untie the bast matting, and cover with soil as before. Sow the berries of the Irish Yew next March in beds of light earth, and cover with half an inch of fine soil. They will come up in due season, but it will be a very long time before they become useful plants. Such plants are cheaper bought, instead of being reared in private gardens.

**PRIVET CUTTINGS TO FORM A SCREEN (A Subscriber).**—Privet is the suitable shrub; *Laurustinus* is too tender for such a purpose as screening a garden, for if anything it requires protection or at least a sheltered situation. Privet is the fastest growing of hedge plants, and is second to none for appearance if kept neatly trimmed. Now is the time to put in the cuttings in two rows 6 inches apart, and 3 inches asunder in the rows, in quincunx order. Rooted plants would be more sure to grow, and they can be had by the hundred or thousand of any nurseryman for very little.

**FRUIT TREES FOR NORTH AND SOUTH WALLS (An Eight-years Subscriber).**—Cob Nuts and Filberts would do on a north aspect, and yet they will not do if you train them to it. Not trained to the wall they would grow from it and obtain sufficient light; besides they are unmanageable trees to train to a wall. Of Raspberries we have no experience, and yet we should think them very untractable wall trees. Morello Cherries would do well, and so would Currants and Gooseberries. A north wall is the very place to obtain fruit late, and keep it a long time after it is ripe. For the south aspect Peaches and Nectarines would do very well. They fruit equally well on a low as on a high wall, only the trees must be planted farther apart. It is too low for Apricots.

**IMANTOPHYLLUM MINIATUR CULTURE (A Subscriber).**—Your plant growing freely will certainly flower in due time. It is not strong enough to bloom, we should think, as the *Imantophyllum* is a free bloomer. Pot it, when growth recommences in spring, in a rather strong turfy loam, two-thirds, and leaf-mould, one-third, with a free admixture of silver sand—river sand will do. Give a moderate shift, and drain the pot well. Water freely whilst growing, and place in a vinery or warm greenhouse



When the growth is made lessen the supply of water, and place in the full sun. Keep moderately dry during the winter, and it will assuredly flower next year.

**PLAGUE OF ANTS (*Idem*).**—You cannot pour ammoniacal liquor into, or spread gas tar about their haunts in doors without damage to the plants. As you are able to entice them with treacle, mix arsenic with it, and this, if they come and eat it, will kill them. Be sure to keep it out of the reach of fowls and domestic animals.

**LAUREL LEAVES FOR DESTROYING INSECTS (*S. R.*).**—The common Laurel leaves in winter and young shoots in summer are destructive to various insects, such as green and brown aphids, thrips, red spider, and mealy bug. A good barrowload of the shoots and leaves bruised between a mallet and stone and put into a small house, will often make short work of every insect in it, and leave a pleasant perfume behind, like a manufactory of custards. We often find that burning such bruised materials, provided the smoke that issues from them is cool, will kill green fly when the tobacco smoke has failed to do so; but just like tobacco and pastils, it will not always do so. As a wash from the syringe and garden engine, we consider laurel water next to good tobacco water for efficacy, and most of the stone-fruit trees like it as much as the insects dislike it. A good barrowload of shoots bruised, put into a barrel—say eighteen gallons, covered over with four gallons or six gallons of boiling water, left covered up all night, the barrel filled up with common water in the morning, the liquor poured through a sieve into the engine and used directly, will generally do good.

**YELLOW PERSIAN ROSE CUTTINGS FAILING (*John Wallace*).**—The reason of their not taking root was the want of a little bottom heat, and the shoots being too mature when they were made into cuttings. They take root more tardily than Hybrid Perpetuals, but not more so than Moss Roses, and the reason of these rootings so tardily, is that the shoots or cuttings are not put in immediately after flowering, which is the proper time.

**STRIKING VERBENAS AND CALCEOLARIAS (*Idem*).**—We cannot undertake to write articles on subjects that have been repeatedly treated of so recently. Verbenas are best struck in pans with a little rough soil at the bottom, about an inch of loam and leaf mould upon it, and then 2 inches of silver sand; or fill the pans one-third of their depth with loam and leaf mould in equal parts, and then fill up to the rim with silver sand. Take short-jointed growing, not flowering, shoots about 8 inches long, and if they have a couple of joints to be inserted in the soil and a growing point they are the right kind. Cut them transversely below the lowest joint, take off the lowest two pairs of leaves, and dibble them in the pan 1½ inch apart every way. Water to settle the sand about the cuttings, and stand the pans on ashes in a cold frame. Keep close and shaded for a few days, and after the fourth day give about an inch of air to prevent their damping off. In ten days or a fortnight they will have struck; gradually harden off, and place the pans on boards in an open situation until the end of September. Then take out the points of the cuttings with the finger and thumb, and remove the pans to a sheltered but open situation. In November remove to a cool house only just frost-proof, place them near the glass, give air daily, and enough water to keep them from flagging, but not a drop more. The cuttings are to be put in about the third week in August for store plants. They may be put in after that time, but must have bottom heat. In March the store pans, if 12 inches in diameter, will each afford about 150 cuttings, which may be inserted like the others, but must be placed in a little heat until struck. A mild hotbed of 75° with a corresponding top heat will cause them to strike in a week; harden, and then pot off, or prick them out in a frame. Another lot of cuttings may be taken from the store pans, and those recently struck will need stepping; the points taken out will make excellent cuttings. If these are not sufficient another batch of cuttings may be obtained from the store pans, but two from these and one from the spring-struck cuttings are all we care about, preference being given to putting in more store cuttings than depending too much upon those struck late in spring. Just now is the time for putting in Calceolaria cuttings. We insert ours in a cold frame on the system recommended by Mr. Fish, and which has never failed during a trial of several years. The frame is placed facing the north, on a row of bricks level with the surface, and if Calceolaria cuttings have been inserted in the same place, the old soil is taken out 6 inches deep and replaced with 3 inches of good, rather strong, turfy loam, well mixed with leaf mould in the proportion of two-thirds loam to one of leaf mould. On this is laid 3 inches of pit sand, and, after heating this a little with a spade to make it firm, the cuttings are inserted 1½ inch apart every way. They are slipped off from the old plants and are slips instead of cuttings, being side shoots about 3 inches in length slipped off with a kind of heel. All the leaves below the upper pair and growing point are removed, and any raggedness at the lower end of the slip removed with a knife, and but very little of that is needed. They are inserted up to the leaves, well watered, and all the air possible is given, lights being only used to protect them from heavy rains and frost. We do not care about their rooting before Christmas, by which time we mostly expect frost. From this they are protected by a covering of straw over the lights, and they never receive light all the time the ground remains frozen hard. In mild weather they have all the air possible. About the end of March, or early in April, they are planted out in beds prepared as for Celery, and protected from frost by mats spread over hoops. The points of the shoots are taken out soon afterwards, and the plants are finally planted out with balls in their blooming quarters.

**VINE SHOOTS DISEASED (*W. J. S.*).**—Your very unripe and weak Vine shoots sent us have these appearances usual after a very severe attack of thrips, and there seems to have been a little mildew also. If it were mildew the shoots and branches would be covered with a fine mealy white powder. To kill it dust the parts affected with flowers of sulphur. To destroy the thrips fill the house with tobacco smoke two nights consecutively, and every other night for a week, then keep a sharp look out, and whenever a thrips is seen smoke again on two consecutive evenings. The leaves, judging by the appearance of the wood, must almost all be destroyed by the pest, and that with the wood little more than half ripe. It is the worst case we have seen. We could have been more positive as to the cause had you sent us a leaf.

**CUT FLOWERS OF ZONALE GERANIUMS (*W. W. E.*).**—We know of no objection to their being employed in the formation of bouquets for exhibition, but no Committee, we think, would offer prizes for them to be exhibited alone as cut flowers.

**FORCING STRAWBERRIES AND VEGETABLES (*A. R. Reader*).**—Your plants having sound well-ripened crowns may be placed in your house to force in December, but far better not until January. If you wish to force them early they must not now be potted, and for early forcing the pots are not too small. They ought to have been potted in July, but it is now too late to make up for lost time. They will fruit all the better in consequence of the pots being full of roots. Beneath the shelves or stages you may force Rhubarb and Seakale, as they do not need light, and the Seakale must be covered with pots to exclude the light in order to have it white. Of Rhubarb—Mitchell's Albert, Crimson Perfection, and Linnæus are good sorts, and so are Victoria and Giant for bulk of produce. There are no better forcing Potatoes than the Ash-leaf Kidney and Myatt's Prolific Ash-leaf Kidney. Peas will not pay for their room under glass, and the only kind for growing in pots or boxes is Tom Thumb or Beck's Gem. Sangster's No 1 yields a far better crop, but will not do where the forcing is great, for it needs room, and air day and night. Dwarf Kidney Beans would do better, and pay at least ten times better than Peas, for they will barely pay for the expense of seed. The temperature will not be high enough for Kidney Beans until the Strawberries have set their bloom, after which it will be sufficient.

**SOWING IRESINE HERBERTI FOR BEDDING NEXT YEAR (*F. D. T. Jersey*).**—Instead of sowing the seed now sow it in a gentle hotbed in the first week of next March, and when the seedlings come up and the rough or first leaves appear, prick the plants off an inch apart, still containing them in the frame. When they become strong gradually harden off and place them in the greenhouse. Pot off singly into small pots and grow on in the greenhouse, planting out in May, by which time they will be nice plants. Without a hotbed plants to bed out next year cannot be had. Plants from cuttings would suit your purpose better, and they may be struck as freely as Verbenas; besides we do not know where seed is to be procured.

**Mrs. POLLOCK GERANIUM CUTTINGS FAILING (*Idem*).**—Without heat Mrs. Pollock and others of the same family do not take root freely in autumn. They strike fast enough in a little heat in spring, and make fine plants for planting out, if strong cuttings be taken. They may be struck freely during the summer without heat if not put in too late in the season.

**SOWING CERASTIUM BIBERSTEINI (*Idem*).**—The seeds should be sown in March, but it is better raised from cuttings and divisions of the roots at that time. Obtain a plant, grow it a year, and you can have thousands of plants by that time twelve months. It is not so good as *C. tomentosum*, for it is stronger, grows less freely, is whiter and more woolly in the leaves, which are double the size of those of *C. tomentosum*, and we like the latter better from the multiplicity of its silvery spray; it is more tractable, and can be cut into any shape or size. *C. Biebersteini* is, however, a very good silvery or white edging and ribbon plant, and we grow it largely for edgings, bands, and lines, and for whiteness, distinctness, and having a less tendency to flower it is superior to *C. tomentosum*. Both are good and may safely be grown and employed in one flower garden, for they both have charms peculiarly their own.

**HOUSING CHRYSANTHEMUMS (*Idem*).**—Take them up before frost; they will produce a fine effect in the greenhouse. Water with liquid manure twice a week until the flowers expand fully, then use water only. The liquid from a stable will do well, diluted with water so as to make it the colour of strong tea or beer.

**MUSK FOR THE MILLION (*A Subscriber, Manchester*).**—Having the roots, nothing is easier than to have Musk in quantity by the first week in March. Pot them now in good turfy loam, light rather than heavy, with one-third of leaf-mould. Fill the pots three parts of their depth with this compost, then put in the roots and cover with soil of the same kind. Plunge the pots in coal ashes to the rim. In the second week in January place them in a heated house (40° to 45°), and if a little bottom heat could be given all the better. Increase the temperature to 50° by the 1st of February, and 5° more in a week, keeping the house moist by sprinkling every surface morning and evening, and give abundance of air. By March Musk will be plentiful, and by introducing plants at intervals of a fortnight a succession may be kept up until it grows in the open ground. In March the seeds may be sown, say half a dozen in a 4½ or 6-inch pot; or a few scattered over the soil in the pot and just covered with soil will soon come up in gentle heat, producing fine plants by July. Seed may also be sown thickly in pans, and the young plants pricked off into pots when large enough to handle. A large supply of plants may be produced from a few ounces of seed sown in spring, the plants when large enough to handle being pricked off into pots, and these plunged to the rim in coal ashes in the open ground after May. Due attention being paid to watering, these plants will fill the pots with roots before autumn, and be fit for forcing another year. Seed may likewise be sown in four-foot beds in the open ground in the first week in May, just covering with light soil, and shading so as to keep the soil uniformly moist until the plants appear. If kept watered during dry weather the beds will in autumn be full of roots, and these taken up and potted will be good for forcing in the ensuing season.

**BOOKS (*A. T.*).**—The third edition of Dr. Hogg's "Fruit Manual" is in the press. The other work which you name can only be picked up at the old-book stalls.

**EVERGREENS FOR NORTH WALL OF HOUSE (*Firm, Devon*).**—In your wild locality *Crataegus pyracantha* or Evergreen Thorn, and *C. crenulata* will serve your purpose.

**COVERING A VINE BORDER IN WINTER (*A Lady Gardener*).**—Six inches of cowdung placed upon the border would, from its keeping the border very wet, tend very materially to destroy the roots of the Vines, at the same time it would enrich the soil by the rain washing the nutriment out of it. Shunters of wood would be the best covering, but as you object to these, and do not require the Grapes before July or August, you may cover the border with a feet of dry leaves, placing on them about 3 inches of rather long litter to prevent the leaves blowing about, and removing the whole in April or early in May. If the leaves are not procurable dry litter will be preferable to cowdung.

**FARMING A SMALL PLOT (*Alphonse*).**—You may very easily keep two cows on your plot, but as you say you know nothing of farming we recommend you to read "How to Farm Two Acres Profitably." If you send thirteen postage stamps with your address, you can have it free by post from our office. It will teach you how to manage your cows, crop your land, &c.



**GLEICHENIA SEMIVESTITA**—**TODEA PELLUCIDA**—**LEPTOPTERIS SUPERBA** *CULTURE (Anxious).*—The whole are greenhouse Ferns, *Todea pellucida* being all but hardly, indeed it will endure its fronds being frosted. *Gleichenia semivestita* is best grown in a pan rather than a deep pot. Draining it well, three parts fill it with very fibry brown peat, and then place on this the delicate wiry rhizomes, filling in around them with very fibrous peat and one-fourth silver sand, to which a little loam may be added; just cover the roots and no more, keep moist, but avoid syringing on the foliage, and let the atmosphere be moist but not stagnant. The soil should be neither very moist nor yet dry. A temperature of from 40 to 45 in winter is sufficient. *Leptopteris superba* will do under the same conditions, but in a pot, and when either of them becomes established it is of free growth, but both are difficult to establish, requiring great patience and coaxing. *Todea pellucida*, or *hymenophylloides* of some, may not do well from the atmosphere not being sufficiently moist. It requires a moist and rather close atmosphere, plenty of moisture at the root, a spongy soil, and a cool temperature, and then it grows freely. When the atmosphere is no more than moist enough for the majority of Ferns it is well to cover the plant with a bell-glass, tilted a little.

**POSITION AND HEATING OF SPAN-ROOFED HOTHOUSES**—**REMOVING SASHES IN AUTUMN TO RIPEN THE WOOD** (*Idem*).—When it can be conveniently done, we prefer span-roofed houses to have their ends north and south, as then both sides of the house receive a nearly equal amount of the sun's rays, and the power of the sun is least at noon, when in lean-to houses, facing the south, it is the most powerful. We have seen span-roofed houses, however, with their ends east and west, and their sides facing south and north, do very well for most things, and especially if the roof on the south side was not too thickly covered with vegetation. For low-growing plants such a position answers very well. Between these the position may be varied to suit circumstances, but, all things considered, we prefer the ends of the house to stand north and south. We think that the idea of taking glass sashes from the roofs of houses at this season for the purpose of ripening the wood is quite a mistake. Something might be said in its favour as respects early houses if the trees were exposed to a bright sun in September, but then if it happened to be showery the whole purpose would be neutralised, and growth would be encouraged instead of ripening and resting. The plan of uncovering such houses, if good for anything, is good for starving and destroying insects, especially if a little frost comes after wet. To ripen the wood thoroughly we would prefer the glass to remain on, so that with all the sun possible there might be a rather dry atmosphere, and as high a temperature as could be given without starting the buds, and there will be little danger of that whilst there is any green in the leaves of the plants. With the top and bottom ventilation you propose you may safely depend for success on a fixed roof, and if stout bars are used instead of sashes there will, as you state, be a great difference in the expense. As to heating, when much is to be done, there is no mode equal to hot water, and especially in forcing. Where great economy in fuel is an object, a flue from the furnace might be taken wholly or partly through one of the houses. For a single small house a flue will answer very well. For early work one flue should not be expected to do more than from 30 to 40 feet long. Whatever mode is adopted, you can only obtain a certain amount of heat out of a certain amount of fuel. To have a hot-water apparatus for a single small house is so far wasteful, that do what you will in the way of regulating by damper, &c., much heat will escape

from the chimney, which would have been absorbed and given out by a flue. For a large house, or several houses to be heated from one furnace, hot water is the best mode of heating.

**DWARF APPLE TREES (J. A.).**—You do not say whether they are required for dessert or kitchen use, so we can only name for dessert—Cox's Orange Pippin, Red Ingestrie, Golden Harvey, Pimston Nonpareil, Sturmer Pippin, Cockle Pippin, Golden Reinette, Margil. For Kitchen—Blanks Coddin, Hawthornden, Cellini, Nonsuch. The "largest" Apples do not succeed as dwarf trees.

**VARIOUS (W. S.).**—We think your *Geranium* leaf a temporary defect, and that the leaves of the shoots next year will be green. The old dents of the weaving machine make good pegs for *Verbenas*, and so does the thickest of flexible wire sold for training purposes. *Marechal Niel* rose is hardly for a Tea Rose, but would require a slight protection in winter in your district.

**SPAWNING MUSHROOM-BEDS (T. Read).**—Inquirers should be particular in their references. There is not a word on Mushrooms in the Number for the 3rd of September, nor could there be, for there is no Number of that date. There is information as to making Mushroom spawn in the Number for the 12th, but nothing is said there as to the management of the beds. Such spawn is generally broken into pieces of the size of a walnut and larger, and plated over the bed at from 7 to 9 inches apart. When the heat has declined to about 70°, watch, and if all is right—that is, if there is no tendency to rise higher, earth over with from 1½ to 1½ inch of good stiff soil, well and hard beaten. If the bed is all right, Mushrooms may be expected in from six to seven weeks, according to the state of the bed and the heat round it. If above 60 the Mushrooms will come earlier, and if from 50 to 55 they will be longer in coming. We have made a shallow bed, put in good lumps of spawn, and much thicker than the above, covered with three quarters of an inch of soil, and gathered in three weeks. We have had good beds that we expected to produce in six weeks that did not produce under ten weeks, so that circumstances will greatly modify the time. As a rule, quick returns give short returns.

**POTATOES (—).**—Sutton's King of Potatoes is an excellent, very productive, second early variety, sometimes kidney-shaped, sometimes round, and has a clear yellow skin. It has taken several first prizes at different shows. Daintree's Seedling is one of the earliest, and most productive Potatoes known, keeps well, and is of excellent flavour.

**NAMES OF FRUIT (E. H.).**—Franklin's Golden Pippin; Croft Castle Pear. (W. H.).—Gloria Mundi. (B.).—Golden Russet. (C. W. H.).—19 appears to be Beurré Diel. The other Pear, of which the tree only bore one fruit, is Easter Beurre; 5 and 15 in the previous lot were not determinable. (Mr. Porter).—1, Glou Moreau; 2, Hollandbury; 4, Beurré de Rance; 5, Golden Reinette; 6, Wyken Pippin; 7, Court of Wick; 8, Nonpareil; 10, Franklin's Golden Pippin. (L. T. W., Hornsey).—Your Pear is the Old Colmar. (Rev. Mr. McCalmont).—Your Apple is the Hampshire Yellow.

**NAMES OF PLANTS (C. J., Thame Park).**—Your tree is *Salisburi adiantifolia*. (*Iago*).—*Verbascum blattaria*. (*J. Pearson*).—*Cupressus macrocarpus*. (*A Subscriber, Marford*).—1, *Salvia hornimannii*; 2, *Gypsophila serotina*; 3, *Ethionema grandiflora*, var. *mierantha*. (*A Young Gardener*).—1, Fern frond without fructification; 2, *Candollea cuneiformis*; 3, *Crassula*, but without leaves we cannot determine the species.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 21st.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 15	29.980	29.885	56	32	56	56	W.	.00	Foggy; overcast; fine; slight frost.
Mon... 16	29.914	29.627	59	47	56	55	S.W.	.58	Foggy; slight haze; heavy rain at night.
Tues. . 17	29.270	29.154	64	35	55	55	S.	.00	Rain; fine; light clouds; very fine throughout.
Wed. . 18	29.091	28.998	55	41	55	55	N.E.	.78	Foggy; rain; barometer very low; heavy rain at night.
Thurs. 19	29.208	29.078	45	26	53	55	N.W.	.18	Constant heavy rain; stormy, cold rain; frosty.
Fri. . . 20	29.540	29.401	44	24	54	54	W.	.12	Clear and cold; rain; frosty at night.
Sat. . . 21	29.569	29.548	47	40	53	53	E.	.20	Rain; hazy and damp; overcast; rain.
Mean..	29.523	29.384	52.85	35.00	54.57	54.71	....	1.86	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### DUCK-FOOTED GAME FOWLS.

MR. HEWITT, one of the leading poultry arbitrators, says the duck foot in Game fowls is a disqualification. The "Standard of Excellence," compiled by parties considered equally able to judge in the matter, says it is a defect. Now, as there is a great difference between that and a disqualification, I think it is desirable that a proper understanding should be arrived at.

It appears to me that the first thing to consider is, What is the cause of the duck foot "or heel?" Is it a flaw in the breed of the fowls, something hereditary? In fact, will duck-footed fowls be likely to produce duck-footed chickens, or is it only a defect produced by the fowls not having a proper place to roost? If it can be substantiated that the former is the case, then I think it ought to be considered a disqualification, so that exhibitors would make it their duty to keep their breeds of fowls free from the defect, in the same way as the hanging comb in Spanish, the want of the fifth toe in Dorkings, single

comb in Hamburgs, are guarded against. If, on the other hand, it is only the effects of carelessness in rearing (as I have always beard it attributed to allowing chickens to roost on a flat surface, instead of a proper perch), then I think it ought to be considered only a defect, and where fowls are much superior in other respects to those competing against them, it ought not to disqualify them from taking the prize. I hope that Mr. Hewitt, and the compilers of the "Standard of Excellence," will give their reasons for arriving at different conclusions, in order that an amicable arrangement may be brought about. —SCOTCHMAN.

In "The Poultry Book" we find the Birchin Yellow cock's plumage described as follows:—"The Birchin Yellow cock has a yellow and black-streaked breast, blackish-grey thighs, tail and belly nearly black, with the remainder of the plumage yellow." This description does not exactly coincide with the Poultry Club's notion of colour. And, again, in the disqualifications, I do not find so great and natural a defect as duck-footed birds mentioned. I think a duck foot ought to be as much ignored as either a crooked breast or back. I have not



seen the "Standard of Excellence," but should wish its merits to be freely discussed in your Journal.—*SKETCHLY.*

[We sent the two preceding communications to Mr. Hewitt, and the following are his notes in reply:—

The deformity in the hind toe of Game fowls, commonly known as "duck-footed," appears now to be quite a leading subject of discussion among amateurs, so much so, that I think every fact that can be adduced in proof of its hereditary tendency, or otherwise, will be a matter of interest to most of your readers, and prove far more conclusive than the most ably supported theory could possibly be. I will be as brief as possible. Some eighteen or twenty months ago a gentleman, at that time a stranger, requested my opinion as to the desirability of purchasing a first-prize pen of Game chickens at a show at which I had just arbitrated. As to the question of price I always decline to intermeddle, as I consider it entirely a matter of personal determination between buyer and seller; but of the quality of the birds as they then stood I gave a most favourable opinion, and, in short, they were "claimed" at the catalogue price, though a liberal one for chickens so young as they then were. I am quite clear on one point: at that time there was not observable even a tendency to "duck-foot" in either of the three birds. Two extra pullets were afterwards bought from the same yard, and placed with the pen previously exhibited, for breeding purposes; the five birds thus ran all together, and the not-very-modest demand of the same sum was paid for the two pullets as for the three birds previously claimed. I am told a noted "cocker," two months or more afterwards, examined very carefully the whole lot, and spoke favourably of them.

To my astonishment, as time wore on, I was informed by the owner that all his Game fowls were "duck-heeled," and I accepted an invitation "to examine them for myself." The fact was, the cock and three out of the four hens were, at that inspection, undoubtedly "duck-footed," in fact, confirmedly so. We next examined minutely sixteen or seventeen chickens (two hatches clutched together with one foster hen) from the same Game parents. They were only about a week old, and to make assurance doubly sure, they were placed one at a time, at the proprietor's suggestion, to stand on a tea-tray, and we could not find a single instance of "duck-foot" in the whole brood. The next inquiry was naturally as to the roosts, and finding them to be about 1½-inch-square scantlings, with the sharp edges planed carefully off, we both arrived at the same conclusion—that the perches being flat and too wide for the feet to grasp with comfort, had tended to produce the ailment. On the simple face of the just-narrated facts this impression appeared to admit of no doubt, although my previous convictions rested on hereditary malformation. The young chickens were kept from any roost whatever, large or small, till about seven weeks old, for they were compelled by their owner to roost (if it can be so called) on loose straw scattered on the floor; the feet were still, I am told, perfect when allowed the privilege of first taking their chance among the elder trees growing around the house, for every artificial perch had been removed beforehand. Of course they could now make their own selection, and roosted variously: yet from information received that "they were all gone duck-footed," I again called, and with only three exceptions they really had become so. Their owner, it seems, felt so grievously annoyed as to give all these chickens at once into the hands of the cook, and the parent birds were also similarly treated. It so happened that not long afterwards I was travelling in the immediate neighbourhood from which the original birds "claimed" by my friend first came, and without giving any reasons to the breeder I called, and saw the parent cock of the five Game fowls first purchased, he was grossly duck-footed, his hens, so far as I examined them, not being so; and walking a mile or more still further on placed me also with that cock's father in my hands, he of course being the grandparent of my friend's original stock of five, and this bird was "duck-footed" equally with his descendants. My somewhat extensive connection with poultry exhibitions also convinces me that this failing is by no means entirely confined to Game fowls. I know a yard of Cochins in which the same imperfection exists; also a strain of Pencilled Hamburgs alike defective, and acknowledge in their case, also, that it acts as a drawback to success; but as such fowls are not required for fighting, I would myself consider it of far less importance than in Game fowls, even for exhibition, as in the latter breed unrestricted motion, when fighting, is one of the very first elements of success.

There are many differences of opinion as to the first causes

producing duck-footedness, some persons confidently argue that it proceeds from constitutional weakness of the parent birds; others say, with equal positiveness, it is not hereditary, but entirely arising from a nervous affection of the bird itself. I leave others to the full enjoyment of their own opinions; of this only I am myself sure—some chickens are actually hatched duck-footed, others become so only when matured.—*EDWARD HEWITT, Sparkbrook, Birmingham.*

## NOTES ON PIGEONS.

FORMER WRITERS ON THE SUBJECT—*JOHN MOORE, A.D. 1735.*

At the suggestion and by the wish of the Editors of this Journal I have agreed to write a few papers, readable ones I hope they will prove, on the subject of Fancy Pigeons. After sundry prefatory remarks I hope to speak of those varieties known to me, and of my experience as a fancier. A few notes on the Powter, published September 12th, must be considered the first of the series, first, however, only in point of time. I do not expect to be able to say much that is new, if, indeed, anything; but I shall be satisfied, and even gratified, if I can succeed in bringing the claims to regard and affection of these beautiful birds prominently before those who have a yearning for pets, but who, as yet, have adopted none; or, if increasing the love of those who already love them; or, if that be impossible, of pleasing fanciers by praising what they praise. Indeed, the thought had come across my mind that Pigeons, birds of so many varieties, with such broad and marked differences, have of recent years scarcely taken so prominent a position in this periodical as they were entitled to take. Thousands in England love these charming birds, from the just-breeched—no, just nickerbockered—boy, with his first pair of common ones, to the graceful girl who feeds with her own hand her snowy-necked Fantails, her pets and almost rivals in beauty.

Many persons who have not, and cannot have, a poultry yard, for whom no garden can bloom a flower, yet could manage in some little loft to place a few choice Pigeons, and snatch half an hour from business to enjoy their pets. And, mark me, it is not only the old bachelor, or the man retired from business, or the lady who lives

"In maiden meditation fancy free,"

who needs the solace that pets can give; but it is the man full of business, who has many cares, who wants a little recreation, and yet must not run away from home—this is the man who requires a little nook to retire to, a very arbour of rest for his mind; and such a nook, such an arbour, is his loft to a Pigeon-fancier. In crowded cities we most of all find this yearning for pets, hence it is that smoky London, sooty Birmingham, and grimy Bristol are full of ardent Pigeon-fanciers. Then there are my brethren the clergy. A witty bishop said to us,

"Hunt not, shoot not,  
Fiddle not, flute not;"

but in spite of this couplet I should, had he been my bishop, have boldly taken him not only to see my roses, but my poultry and Pigeons as well. My bishop was here the other night, and I showed him my dear in-door pets; had it been day I should have showed him my out-door ones as well.

One word, too, upon a piece of scandal against Pigeon-fanciers. Blackguards may keep Pigeons, and fly them for bets; however, I never knew such, but I have known very many ladies and gentlemen, and a very great many respectable tradesmen and artisans, both in England and Scotland, who were excellent, worthy men, and whom, when I meet, it gives me unfeigned pleasure to give and receive a hearty shake of the hand; no scandle, then, please; the best class have bad ones among them, but no class is all bad.

A word next upon the various books which have been written about fancy Pigeons. For aught we know to the contrary, until the year 1735 the Pigeon fancy was guided by an unwritten code of laws. It may be that we have altogether lost sight of some older work; but clearly we only know as the first work on the subject "The Columbarium, by John Moore, printed for J. Wilford, behind the Chapter-house in St. Paul's Churchyard, 1735." And a good old book this is, and a thorough master of his art was Moore, for he produced a work which for a century was the standard work on the subject, and which other writers copied line by line and page by page; but, alas! without acknowledgment, adding indeed some little, but the bulk was ever Moore and Moore only. First in time, as far as we know, and certainly in fame and worth, is old Moore. I



imagine that he was a timid author, and caused but one edition, and that a very small one, to be printed. Perhaps, too, he was not over-blessed with cash; however that might be, we now scarcely know of the existence of more than one copy. Poor Moore, he dedicated his book to Sir William Stapleton, Bart., as he says, "seeking a proper refuge against any ill-natured censures." Of course he thought the learned naturalists would pooh-pooh the pages of the mere fancier, and for the humble fancier the book would be too dear; so perhaps Moore lost by his work, and his wife in her pets—pet though she herself might be—threw his book (I hope only figuratively) at the poor man's head, and his authorship was tabooed; he regretted it as a weakness, gave the servant-maid (no Mrs. Moore would do this) the unsold copies, the greater number, to light the fire with, or the maid took them, saying "Only Columbariums, Mum, they don't matter;" and, as a conclusion, Moore went to his grave lamenting he had ever been an author.

Moore describes himself thus:—"Mr. John Moore, Apothecary, at the Pestle and Mortar, in Laurence Pountneys Lane, the first great gates on the left hand from Cannon Street, who formerly lived at the Pestle and Mortar in Abchurch Lane, London." An apothecary, then, was Moore, a member, I fancy, of the old Apothecaries' Company, for he was an educated man. He was not a surgeon, not a grand bewigged doctor, who walked about with a hollow-topped gold-headed cane, in which top was some strong perfume, aromatic vinegar most likely, which the doctor of the day—I fear a solemn humbug frequently—kept smelling when in a sick room, till the habit grew, and in the street, when in conversation, the gold nob was ever at the nose, and the ignorant looked with awe upon that gold-headed cane, and a very poor chance would a clever fellow who abhorred humbug have had if he had started in doctoring without a gold-headed cane. John Moore was none of these, he was a compounder and seller of drugs; others prescribed them, he made up the prescriptions merely, so was guiltless if the patient was killed, unless he made a mistake, and if so, he was the man to take prescriptions to ever afterwards, as he would be extremely careful in future.

The little man at the "Pestle and Mortar," left the pestle quiet in the mortar at times, and was in his Pigeon-left, or in the loft of his brother fanciers, taking country walks to "cull simples," and see Pigeons. Then came the thought of writing a book on his favourites, and while beating his mortar he combined the ingredients of his pills, and framed his sentences at the same time. "Pestle and mortar"—the old apothecaries had two mortars—one a large, heavy, three-legged thing, which stood on the floor, which uttered when in use solemn sounds; the other, a little brass thing, which stood on the counter, and which had a spiteful, sharp, ringing sound. A wag remarked the big mortar says, "Linger him long, linger him long;" the little one, "Kill him quick, kill him quick." Now, whatever skill John Moore possessed as an apothecary has long since faded from all recollection, but his fame as an author lives, and will live as long as a Pigeon fancier exists in the world. He writes like a man of good taste (remembering the age he lived in), and of good education. He writes modestly and correctly, orderly and methodically. His profession crops out now and then, as in his chapters on the "Distempers of Pigeons" and "Their Usefulness." He had read books of travels, and knew better Latin than the dog Latin of his prescriptions. He was something of a wit too, quaintly saying when he did not believe a tale, "Let who will swallow this gudgeon." I, also, would note, that although an enthusiast, I find no one ill-natured remark save this, "Mr. Hickman, a distiller, in Bishopsgate Street (not one of the lying Hickmans)." Perhaps that family pestered the poor apothecary, always getting physic out of him, and always promising payment, but forgetting their promise. This made him write sharply, or, I rather incline to think, it was mere fun on his part, and no lying Hickmans existed, he said it to please his friend the distiller.

Moore describes birds admirably, pointedly, clearly—you see the bird as you read his description. This combined with its truthfulness on fancy points, and its thoroughly practical character, are the reasons his book became a standard work on the subject. A man who writes what lives its century is entitled to praise; nay, more, a man who struck into a new path and did his work so well that others for a hundred years after did little more than copy him, is entitled to great praise.

I said "Moore's Columbarium" is a scarce book. Mr. J. M. Eaton has happily reprinted it with notes of his own and of other authors. I have never seen an old copy of Moore. I will relate Mr. Eaton's account of his finding a genuine copy. At

page 191 of his work he says—"Although it cost me many pounds one way and the other to obtain this book [John Moore's work, 1735], besides great loss of time, for I searched every bookseller, north, east, south and west, besides advertising it several times through the different channels, had I not seen and read the work I should not have believed there was such a book. The fancier to whom the work belonged, used to say it was the only copy in the world. He promised me he would lend it to me (if he had I had made up my mind to have employed some one to have written it out before I returned it), but he had lent it to a fancier and could not get it back. I still, therefore, hunted for the book, and the more I hunted the further I was off the scent. However, one day seeing two boys, apprentices I suppose, in deep conversation at an extensive second-hand book shop—I believe if I had asked one of them if he had 'Moore on Pigeons,' he would have said 'No.' (I had my wits about me for the first and last time)—I arrested their attention by saying, I would give them a shilling's worth of brandy and water if they got the book I wanted. I told the boys to consider before they said 'No.' They looked at each other as if surprised. I think they smelled the brandy and water. After a little consideration one of them went down the long shop to his employer, who went and laid his hand on a book. I saw the boy coming with the book in his hand, I thought it was something about Pigeons, but never thought it was Moore's work. To my astonishment and delight it was the very identical work I was in search of. Having it in my hands, I thought my eyes would have darted out of their sockets. I thought 'this book shall never leave my hands whatever the price.' I bought it, gave the boy a shilling and left, all pleased with the transaction." I do not doubt Mr. Eaton's delight.

Now, farewell old Moore, the first that gathered up the floating ideas about Fancy Pigeons. I wish he could have known how his name and work would have lived. When next in London I will pay a visit, at any rate, to the street he lived in.—WILTSHIRE RECTOR.

#### CALNE POULTRY AND PIGEON SHOW.

IN "WILTSHIRE RECTOR'S" account of the Calne Poultry Show in last week's Number, there is an expression which is calculated to mislead your readers, which I am sure he never intended, and which, if not explained, would be most prejudicial to the success of any future Show of the kind at Calne. He says "When I entered the Show (I presume he means the grounds of Castle House, where the Show was held) at one o'clock, one tent was then only in the act of being reared." I fear this will be understood as either the Pigeon or poultry tent, both of which were erected the day before, the one referred to being a supernumerary tent for the Committee, or some other purpose, for which, however, it was never used, nor was its erection ever completed. With regard to the smallness of the pens for Turkeys and Geese (and here I would also reply to the complaint of "THE TURKEY PRISONERS AT CALNE," in the same Number), it should be remembered that poultry shows of any extent, in this part of the country, however much they are desired and desirable, are few and far between; that in a rural district like this, where the majority of the farmers consider poultry-keeping a very minor consideration, and look upon a poultry-fancier as a weak-minded individual, who is to be pitied if not contemned, it is most difficult to excite in the public mind sufficient interest in such matters so as to raise the funds necessary for the effectual carrying out of such an exhibition, and that, consequently, with the exception of Devizes, there is no place where pens can be hired except from a great distance. On the occasion of the last Show, in 1862, we did go to a distance in order, as we thought, to get the right thing, and had to pay £8 for carriage; but unless I am greatly mistaken, the Turkey pens were as small then, or very nearly so, as in the present instance. To Devizes, therefore, on this occasion we went, not feeling justified in spending such a large item for carriage, and obtained the largest pens we could, and put the Turkeys in the most suitable; more we could not do.

As regards the remarks of the "TURKEY PRISONERS"—"We envied the useless height of the Pigeons pens," I may state that as there had never been a Pigeon Show at Devizes we were obliged to use poultry pens, and there surely could be no objection to the Pigeons having plenty of room, while the statement that none of the officials were tall enough to affix the commendatory cards, and that the Turkeys were exposed to a



full sun and effectually ruined for any future exhibition, is simply untrue. I do not complain of "WILTSHIRE RECTOR'S" strictures, feeling sure, as he himself says, that he wrote "for improvement, and not from love of fault-finding;" but I trust, the above explanation having been given, whatever shortcomings there may have been, will appear the less reprehensible. As an instance of how ready some people are to find fault, one successful exhibitor has already complained at not having received his prize money; but surely a fortnight after the Show is not an unreasonably long time to wait, and I fully believe that all the prizes will be paid by the time this is in print.—ALFRED HEATH, *One of the Committee.*

### THE LONG SUTTON POULTRY SHOW.

IN No. 237, I raised an objection to the announcement in the schedule of this Show that a catalogue would be published ten days before the award of the prizes. I still maintain that objection; but I think I am bound to state that I have seen nothing in the management of the Show, or in the award of the prizes, with which I can find fault, and I will add, that had I been aware Mr. Hewitt was to be the judge I certainly should not have made any allusion to the prize list. I do not by any means think Mr. Hewitt's judgment is infallible, but I cannot put my prizes in a case when I do not think the judgment honest.—AN EXHIBITOR.

### MIDDLEWICH AGRICULTURAL SOCIETY'S POULTRY SHOW.

(From a Correspondent.)

THE annual Show took place in a field adjoining the town, on the 17th inst., and proved successful. The poultry were shown under a large tent well adapted for the occasion; and the classes were well filled, the number of entries being more than in any previous year. Great credit is due to the Secretary, Mr. Taylor, together with a working Committee, for the manner in which the Show was carried out. The *Game* class was very good, and such was the merit of the birds that it was a difficult matter for the Judges to decide which was the best pen. The *Dorkings* showed up well, also the *Hamburghs*. The *Poland* class was small, but the birds were good. The *Bantams* mustered well, some beautiful White ones taking away the first and second prizes. The *Ducks*, Any variety class, were excellent, the first and second prizes being awarded to very fine Aylesburys, such as would not disgrace the great Birmingham Show. *Turkeys* and *Geese* were few, and not very excellent. The following is a list of the prizes:—

SPANISH.—First and Second, J. Siddons.  
DORKING (Any colour).—First, T. Pickering. Second, D. Harding. Highly Commended, D. Harding. Commended, P. Marron.  
GAME (Any variety).—First, J. Grimes. Second, J. Heath. Highly Commended, J. Platt. Commended, E. Wigger.  
HAMBURGH (Pencilled).—First, D. Harding. Second, J. Greaves. Highly Commended, D. Harding.  
HAMBURGH (Spangled).—First, J. Greaves. Second and Commended, T. Dale.  
POLANDS.—First and Second, J. Heath.  
BANTAMS (Any variety).—First, Mrs. A. Butler. Second, C. Hollinshead. Highly Commended, T. Butler.  
TURKEYS.—First and Second, P. Marron.  
GEESE.—First, C. B. Lea. Second, P. Marron.  
DUCKS.—First, Mrs. Hornby. Second, J. Platt.

The Judges were Mr. Fell, Warrington, and Mr. Bebbington, Missan Vernon.

### DARK BRAHMA POOTRAS.

HAS it not been considered by some connoisseurs of Brahmas that the light Brahma is the original, and the dark Brahma a later production?

From a Dorking cock (grey) and a light Brahma hen I have produced a cockerel marvellously like a dark Brahma, and I cannot help thinking but the dark Brahmas have sprung from some such cross. Perhaps some of your Brahma-loving correspondents would enlighten me on this point.—D. P. P.

WEST CUMBERLAND AND NORTH OF ENGLAND POULTRY SOCIETY.—It will be seen by an advertisement that the above Society have fixed their next Exhibition for the 10th and 11th of January, 1866. The prize list includes eighteen silver cups. Six of them are confined to West Cumberland—for single cocks of Game, Dorking, Spanish, Cochin, Hamburg, and Game Bantam. The whole of the other classes in the Shows are open.

For Game cocks, the first prize is a silver cup, value £8 8s.; second ditto, £3; third ditto, £2; fourth ditto, £1; and fifth ditto, 10s. To go through the whole of the classes would take up too much of our space, but we will add that there is a cup for the best pen in the Exhibition, and cups each of the value of £3 3s., for the best pens of Game, Dorking, Spanish, Cochins and Brahmas combined, Hamburgs, Bantams, and Ducks. For Pigeons there are twelve classes, each of £1 for the first, and 10s. for the second, with a cup added for the most successful exhibitor. This Society has tripled the amount of money given in prizes in less than three years; for, in 1863, £55 was given; in February, 1864, £68; and in December, 1864, £116; and at the next Show over £180 will be given.

### GAME FOWL JUDGING.

THE controversy in your columns on the subject of Duck-footed Game fowls now embraces several other points in consequence of the contribution of "EXHIBITOR" in page 305. In this communication various assumptions as to Game judging are indulged in, and as "an honest award of the prizes" is the sole object of his letter, a further ventilation of the subject will perhaps conduce to so desirable an end.

"EXHIBITOR" says "that a breeder and exhibitor of any length of standing must possess as correct a knowledge of the points of merit in a bird as a professional judge." Such, undoubtedly, is the case in some instances, although it does not necessarily follow that such knowledge can be either bought or rented, as many prize birds are. "EXHIBITOR" then seeks to illustrate his point by alleging the retirement of an exhibitor consequent on non-success, and mentions the two last Birmingham Shows as instances of such retirement. A reference to the Birmingham catalogue of 1863 and 4, certainly shows the names of some exhibitors, "conspicuous by their absence," as prize-takers, but your readers will scarcely be able to credit the averment of "EXHIBITOR" as to "the great dissatisfaction manifested." It is quite true an attempt was made to throw discredit on some of the decisions; but it is well known that the alleged dissatisfaction merely existed with one or two disappointed exhibitors, and perhaps the best answer to such insinuations is the re-appointment by the Birmingham Committee of the Game Arbitrators.

It is a matter of current rumour that an attempt has been made this year, as heretofore, by a certain large Game exhibitor to influence the appointment of the Game Judges at Birmingham for the forthcoming Show, by the threat of non-exhibition in case of non-compliance, and as your correspondent states "that the Birmingham Committee do not contemplate making any change in their Judges of Game fowl," it will, perhaps, not be far wide of the mark to assume that such person is identical with "EXHIBITOR."

"EXHIBITOR" then notices the very liberal prize list issued by Mr. Jennison, of Manchester, and after stating that exhibitors had general confidence in the judges he has appointed, proceeds to deduce that Birmingham should be passed in favour of Manchester. At Manchester, two years ago, the name of a certain Game exhibitor does not appear in the catalogue, although the fowls usually shown by such person were supplied to, and figured in the prize list in other names, which, quoting from your correspondent, "wears an air of suspicion."

It would be satisfactory to know if the well-known dictation as to the Game Judges at Birmingham in 1862, attempted again this year, prevailed successfully at Manchester in 1863. Mr. Jennison is reputed to be a shrewd man of business, and, wishing his enterprise every success, it is to be hoped that he will not accept any nominee, but select judges of known ability and integrity, and at all events not recur to the memorable Birmingham régime of 1862, which resulted in the retirement of such exhibitors as Mr. Archer, by whom Game fowls were more improved than by any other breeder of his time.—JUSTITIA.

### PIGEONS WITH WEBBED FEET.

IN a recent Number Mr. Hewitt described a Brahma's foot that had the web largely developed. I fancy such cases are not uncommon among birds with feathered feet. I have a first-rate tumbling breed of Birmingham Rollers that is heavily feathered on the feet. Several of these birds have the middle and outer toes united by a web, in some half way, in a few quite to the end; but the web is narrower than that of a Duck's



foot. I have one young one in which the toes are closely united by a narrow web, the centre toe being bent aside, and the nail of the outer and middle toes united in one. One of these Rollers has the extraordinary number of eleven flight feathers in each wing.—B. P. BRENT.

### BEWARE OF SWINDLERS.

I ENCLOSE you the following letters that I received in answer to an advertisement in your Journal, in the early part of last month, for a few Brahma and Cochins chickens. Being rather doubtful about the party, on receipt of the first letter I looked over both the "Post-office Directory," and "Medical Register," the writer signing himself a surgeon, for the name, but could not find it; but at the address he gave I find is a post office. Knowing that I should be in London in the course of a few days, and not wishing to be duped, I wrote the party that I would call upon him on the following Wednesday. He wrote by return that he had been called away in great haste, and would not be at home for several days, but if I would "run down" to some address at Croydon (this letter was written in pencil), I could see the birds there; the party was keeping them for him till he found a customer. Well, I happened to have a little business at Croydon, went and took the letter with me, showed it to several old residents, the postmaster, &c., but no one could decipher the address, and that is the end of the affair. It was a good attempt, but did not succeed. Had I sent any post-office order I should have adopted the suggestion made by you—ten days' order, and if the birds had not come in the meantime, I should have had time to have acted. I am willing to co-operate with one or two gentlemen to bring this party to justice, if they will favour me with their names through you; or you can furnish my address.—CANTUS.

### EXPERIMENTS WITH FOUL BROOD.

IT may well be said that 1865 has been one of the finest seasons that many of us have ever experienced, and one which will not readily be forgotten. It was enough to rouse the most lethargic to a state of activity and admiration. The fields were so thickly clad with flowers that their fragrance filled the air, inviting, as it were, the whole insect creation to the feast. Not less delightful was it at dusk to observe the great variety of moths; many of the most beautiful were quite new to us, and we may, perhaps, never see the same species again. In the morning was to be seen and heard that interesting one the humming-bird moth, so agile in flitting from flower to flower, while its sound was no less pleasing. The only insect we have lost sight of these five years is the leaf-cutter, not one having been seen during the whole of that time. Our bees, then, have had a most favourable season in the dales, but the heather proved almost a failure, the highest I have heard of only reached 30 lbs., whilst the lowest was but 17 lbs.

I will now relate some of my observations and experiments during the season as nearly as my memory will allow. First, then, in April I sent a piece of foul brood to the Editors for an explanation, but not with any desire for information, but rather to censure them, as I knew too well what foul brood was, although my notion as to the cause might be wrong, as I by subsequent experiments found it to be, and now bid fair to renounce my former opinions on the subject. The hive from which the piece of brood was taken was one that the bees partially deserted in April, and in which it appeared evident that chill was the cause of the mischief, as there was nothing wrong previously. Although in this case I asked the Editors' advice, I did not intend to take it, as I had already made a partial excision leaving nothing but what appeared fresh, being two combs of brood and two combs of sealed honey in the upper box, the under one being also full of new-made comb. Having filled the upper box from the under one, keeping the brood in the centre, I added a number of black bees, thinking this would set all right; but no, matters only became worse, and on the 1st of June I transferred them to a straw hive, full of comb and bees, that had a drone-breeding queen whose brood was also foul. Things now went well with this hive, for in six weeks afterwards I had two swarms from it, and all the three are now doing well. I almost forgot to say that when I transferred the bees to the straw hive, I took particular care of the combs that were free from brood. For experiment, about the middle of June I put a swarm amongst these combs, and in twenty days (about fourteen honey-making days), the weight of the hive rose 60 lbs., the gross

weight being 80 lbs.; since then I have seen young bees emerging from these combs, and at present it is the best hive in my apiary.

The old stock from which the swarm originated was divided into three, but only one queen hatched out, the rest appeared to be all abortive from foul brood; but by giving them a piece of brood-comb from another hive they soon had queens hatched again. Out of these three, one remained healthy, but two became quite offensive with foul brood. From one of these I cut out all the brood, and the top box being well filled with honey, I removed the under one, after the brood was cut out, to a distance of 300 yards, putting it in the place of a hive which was removed to my garden. The queen being put into it, I allowed the returning bees to enter in order to see whether or no foul brood would appear. At the end of three weeks I examined it and found twelve cells affected out of about two hundred, but I fear this experiment will have to go for nothing, as it appears that the hive from which the queen was taken had also been affected.

I must now return to the top box from which I removed the queen, she being a hybridised one, and substituted a royal cell, placing it in a small cap on the top of the hive, and in this case all appeared well. The other hive I allowed to stand undisturbed for more than a month after I detected the offensive smell. When I opened it there were five combs completely and compactly filled with rotten brood, but it appeared that a change had taken place, for there was a patch of about 3 inches square perfectly free, the brood being in all stages, so that it appears the disease had left it. One thing, however, I must not pass over. The eggs in this hive were very irregular, there being from one to thirty in a cell; in fact, the cells appeared to be quarter filled, and in many two worms were hatched together. I may here observe, that in all foul-breeding stocks in which the queens are young and very prolific, and irregular in depositing their eggs, it will be well to notice if they continue their fertility, and whether they are attacked a second time. It appears that a strong inclination to lay comes on whenever they are attacked. It also appears that foul brood arises from the queen, as I have proved by experiment by inserting a piece of healthy brood-comb in the heart of a foul-breeding stock, and it all hatched out;\* but, perhaps, this experiment would be better to be renewed before it could be relied on.

I will now give a brief account of a few other things which have come under my observation. 1st, then, it appears that excision in the early stages does not effect a cure, but after a time it does. 2nd. That the bees in the first stages carry an unusual amount of pollen, and that the queens begin to lay early and are extra prolific, the eggs being deposited in a careless manner; there are also a smell of fermentation in the honey, with a multitude of animalcules, and a slight phosphoric appearance after it has stood some days, hundreds of inverted pupæ, but by no means all foul brood, although all abortive, as in many cases I could pull them out quite whole. Twelve days after excising the combs I examined what I had cut out, when I found some of the worms had grown much and many others were still living, which proves conclusively foul brood is not chilled brood, although it often occurs under circumstances which might lead us to believe it to be so.

A hive that had lost its queen commenced cutting away all the raised parts of the cells, leaving nothing but the centre partition; but as I then gave it a queen I did not see whether it would change them into drone cells. I also found in a hive that had lost its young queen (supposed by regicidal attack), eggs of a fertile worker two days afterwards. I would also ask, if any one can explain the reason why, when bees barricade their doors, they leave a hole at each side; is it for ventilation, or is it for their better protection? I may also state, that hives that had been heated in transit fell victims to the disease. I hope, however, that I shall not again have it in my power to experiment to such an extent, but as I have watched and marked down every symptom, I hope that others may derive some benefit from it.

I have at present two hives with combs taken from foul-breeding stocks, but which appear healthy; four with comb excised, and as yet no symptoms of the disease have re-appeared, and these shall be kept for further experiment. One thing is, that in Ligurian stocks the brood is kept more compactly together than in black hives, which gives the malady a more deadly appearance. I was somewhat sanguine that the Ligurians would have a great advantage over the blacks by being able to work on the red clover, but to my astonishment I found that the blacks as well as the Ligurians wrought both on the first and

\* This experiment scarcely seems to warrant the conclusion drawn from it, which is, moreover, contradicted by the fact that if the queen only of a foul-breeding colony be placed at the head of a healthy stock, she does not carry the disease with her.—A DEVONSHIRE BEE-KEEPER.



second crops of red clover, not sucking the sweets from the tube, but at the base of the flower; and so late as the 22nd of September some hives rose a little in weight. That the Ligurians are a superior kind of bees is beyond doubt. In their superior fecundity and earlier breeding, the great desideratum in bee-keeping, has been attained. I may remark in corroboration of the above statement, that in a nine-frame hive with super and nadir, I saw the queen repeatedly dropping her eggs in twelve days after hiving, having no empty cells in which to deposit them; there would, therefore, be no less than 30,000 eggs deposited in that time—a very much greater number than many suppose. I had a conversation the other day with an old critic, and he remarked on seeing about two hundred bees lying dead near a hive, that they would soon make it up, as he had no doubt but that they laid as many as one hundred or even two hundred eggs a-day, when I asked if he did not think that they would reach as many thousand in the same time, and inquired how a hive could swarm at all if bees did not breed more rapidly than that? but he only remarked that the eggs laid would then be of larger bulk than the queen herself.

Before closing, I may mention that this year will have taught many to adopt the plan of artificial swarming, as this season I can count in my own neighbourhood no less than thirty stray swarms. Four of these I took out of chimneys, with entrances at top, and one was in the roof of a house. They had been in three weeks when I was sent for to see if I could take them out, which produced rather an amusing scene. A ladder was placed against the eaves of the house, and then one was suspended to the roof, when in a twinkling the gardener was mounted on the top, the young gentlemen scrambling up the house and relating wonderful stories about these wonderful bees, how they would not sting their master, how obedient they were to the commands of their king, how grateful they were to those who were good to them and did them a good turn, by meeting them when they saw them approach their hives, and buzzing around them with joy, and how a friend of theirs kept bees, and once when he saw them struggling with a sickly bee, he approached and killed it, and ever after when they saw him come near they carried out those that were sick to be killed. Such-like stories showed at once that bees were strangers to them. Notwithstanding the courage of the gardener at first, no sooner had I commenced operations to get at the honey, which I managed by driving, tapping gently on the sarking, than the bees instead of running up ran all downwards. In this case there was an example of the bees' choice of an entrance, where they had an opportunity of entering anywhere. They cemented up the whole seam between the wood and stone and entered below, having a space of 3 feet by 7 inches by 6, completely filled with honey. But about the gardener, the bees at first seemed a little irritated; by this time he appeared to lose his courage, and in vain did he beseech me to let him pass by the ladder, as I required his assistance; but rather than suffer a slight sting he scampered over the roof, and dropped on the lawn beneath, fortunately escaping unhurt.

Throughout the year I have invariably found young bees emerging from their cells twenty-eight days after the exit of the old queen. Can any one explain why the eggs of a fertile queen, from the beginning of February till the beginning of April, although regularly deposited to the amount of six thousand, were never brought forward, the hive being both strong in bees and with plenty of food? Some of these eggs were given to a stock of Ligurians, and not one of them was brought forward. Some of these observations will probably be passed over by many as worthless; but I am disposed to hope and believe that they may be of service to others as well as to—A LANARKSHIRE BEE-KEEPER.

### NATIVE HIVES.

In answer to "M. S.," I would state, that the makers of my "native hive" are the village carpenter, and a day labourer, whom I have instructed how to make straw hives square. As yet, I have only had four made, and have not kept them through a winter. I could, however, have any number made for the price mentioned, 10s., or if "M. S." would like to know how my straw hives are made, I would send him a sketch of the frame, on which, or rather round which, they are made. The "native" would consist of a floor-board, and a square straw hive made and sewn with cane to a wooden frame, having as in the Woodbury hive, notches for ten frames; these when *in situ* are flush with the top of frame, and are overlapped and kept tightly in their places by the top, which is screwed down with four brass screws. This top is in a frame with a rabbit,

in which fits a board with central hole (or a glass, which is not provided, may be used in the summer months), leaving space under for bees to move over the top of the frames.—M. D.

### PRESERVING BROOD—TRANSFERRING BEES—APPARENT QUEENS.

1. How long will brood from condemned hives keep? and is there any way of preserving it?

2. Will it be a good plan to place a common hive of combs, &c., after having driven out the black bees, over a Woodbury straw frame-hive containing a weak stock of Ligurians, for them to carry down the honey, and hatch out the brood?

3. Is it probable that there would be more than one queen in a hive of Ligurians? as I find, in looking through a hive lately purchased, several bees that are longer and more acute in the abdomen, and with shorter wings.—A. R.

[1. Sealed brood would probably keep many days, and might even hatch out if kept in a uniform temperature of about 85°. Unsealed brood, on the other hand, protrudes, and dies when the larvæ attain a certain stage if there are no bees to seal it over. In practice, therefore, it is very desirable to keep brood as short a time as possible out of the hive.

2. It would be much better to cut out the combs, fit those containing brood into frames, and insert them in the Woodbury hive.

3. It is certain that there is but one queen in the stock. Those bees that appear larger than the others are gorged with honey, whilst the taper-pointed abdomen is a general characteristic of the Ligurians.]

### FEEDING BEES IN AN OLD STRAW HIVE.

I wish to know how to feed bees in an old-fashioned straw hive. I have been feeding them in a little trough outside the hive. I think I am doing wrong, as several bees are lying dead on the ground. This morning I picked up sixty bees all apparently dead. Some of them looked numbed as if cold; and I put these between my hands and breathed on them, which recovered them, so that they could fly. I put three or four of them into the hive's entrance, but they were instantly beaten and turned out again, and appeared as bad as ever.—J. R. P.

[If there be, as there frequently is, a cork or stick inserted through a hole in the centre of the crown of your hive, draw it out and feed through the aperture. If there is no such opening make one, say 2 inches in diameter, with a sharp penknife. The best means of feeding is by means of an inverted bottle with a short neck, which must be tied over with a bit of cap net, or such like material, and inserted through the orifice thus formed. Feeding bees outside the hive is at all times bad practice. Those bees which were refused admission into the hive were most probably strangers to it.]

### OUR LETTER BOX.

DISEASED PIGEONS (A. W.).—I suspect your Pigeons are in a bad state of health from over-feeding or want of salt, and their blood being impure, they break out in sores when pecked in fighting. You can try dough pills containing one grain of calomel, repeat one pill each day for two or three days, then a dessert spoonful of castor oil, and bathe the eyes with goulard water.—B. P. BRENT.

BEANS FOR PIGEONS.—Evesham will be obliged by the address of any party who has old small beans to dispose of, suitable for Pigeons. He wishes for some little larger than peas.

GERMAN PIGEONS (Flora).—The white Pigeons with black heads and tails which you noticed at Wiesbaden were probably Florentiner, oder Hinkel Tauben; a breed similar to what we call Leghorn Runts. Your Ducks, I suppose, are the Bebe or Black East Indian variety, the shells and skins of the yolks of whose eggs are often dark-coloured. I have heard that feeding on acorns will darken the yolks.—B. P. BRENT.

GREYPATED GOLDFINCHES (F. E. R.).—I suspect they die from eating rapeseed. The change from green food, chickweed, groundsel, and thistleseed, which they get in a wild state, to hard dry seeds, especially hot pungent seed like rape, is too great for them, and they die of fever caused by the unnatural food. You can have "The Canary and Other Finches" from the office of this Journal, free by post, by enclosing nineteen stamps with your direction.—B. P. BRENT.

SUBSTITUTE FOR INSECT FOOD (F. W. B.).—Mealworms may generally be procured at most mills or bakeries, though it is not all bakers that care to acknowledge they have them, or will take the trouble to look for them. If you procure some of the parent beetles and put them in a tub with some meal you can breed them and so have a constant supply. Emmets' eggs, or the cocoons of the ant, may be collected and dried in the oven and so preserved for winter use. Lean beef scrap and mixed with boiled yolk of egg, German paste, and chopped suet are sometimes used as a substitute.—B. P. BRENT.

## WEEKLY CALENDAR.

Day of Month	Day of Week.	OCT. 31—NOV. 6, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
31	Tu	Elm leaves fall.	53.9	38.2	46.0	20	54	6	34	4	12	3	45	2	12	16 16	304
1	W	ALL SAINTS.	54.4	38.2	46.3	22	56	6	32	4	43	3	5	4	13	16 17	305
2	Th	Sycamore leafless.	54.4	37.8	46.1	17	58	6	30	4	16	4	26	5	14	16 18	306
3	F	Hazel and Lilac leafless.	53.4	36.5	45.0	18	59	6	28	4	53	4	49	6	15	16 18	307
4	S	Ash and Hornbeam leafless.	51.8	37.1	44.4	20	1	7	26	4	39	5	7	8	16	16 17	308
5	SUN	21 SUNDAY AFTER TRINITY.	53.1	38.0	45.6	19	3	7	25	4	31	6	19	9	17	16 16	309
6	M	Cherry tree leafless.	53.0	38.0	45.5	19	5	7	23	4	29	7	22	10	18	16 13	310

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 53.4°, and its night temperature 37.7°. The greatest heat was 67°, on the 31st, 1854; and the lowest cold, 19°, on the 3rd, 1861. The greatest fall of rain was 0.88 inch.

## ALPINE PLANTS.



CONSTANT succession of interesting and beautiful flowers is provided by Nature, from the first appearance of the Snowdrop and Aconite, to the blooming of the Christmas

Rose; unfolding their beauties in the open air, they are within the reach of numbers who cannot cultivate the more costly denizens of the greenhouse and stove, and they possess the additional advantage that they may be seen and enjoyed in a purer atmosphere than that which prevails in these structures. Such plants, however, are not now in fashion, and in their stead are cultivated those which produce great masses of colour for a brief season, leaving the beds tenantless, flowerless, and bare for half the year. Whilst this continues to be the case, we deprive ourselves of that pleasure which we might otherwise enjoy in the possession of a long succession of beautiful flowers; but though the present system is one requiring a change, I by no means wish unjustly to deery it; I grant its merits in certain respects, but I object to the general exclusion from the flower garden of certain plants for the sake of bedding plants alone. Our gardens have some of the loveliest flowers that expand even before the snow melts; these give place to others more brilliant, which are in turn succeeded by many more, until the monarch of trees throws off his summer garb, and even then, notwithstanding chilling winds and darkening days, many interesting plants continue to display their charms until sealed under the snow. These are destined to contribute to the interest and beauty of our gardens at times when the plants cultivated for summer display are not in bloom, and to accompany, not replace, the latter when they are confined within proper limits.

For a number of years the prevailing fashion has been colour; recently foliage has been called in to aid in toning down the vastly-too-bright display. Great the strides taken to enrich our gardens during the summer, short and slow those towards a gathering of those plants that bloom early and late. It is the fashion to have flowers in gardens during summer, and these for a brief period only, and, if wanted in winter, spring, and early summer, they must be sought for under glass. Everybody knows that there used to be plants that blossomed at such seasons, but they are not now the fashion. They had their day. It is said that fashions endure for a while, and that the old ones come round. Let us, then, have flowers that can be seen in the pure fresh air, that are objects of interest and beauty not only when the butterfly flits from flower to flower, but at all seasons, in sunshine and in gloom, in frost and snow, in wind and rain, and let us thus create a garden "wherein

things of beauty are severally had in season." Among the plants best calculated to produce such a result, are herbaceous and alpine plants, and of the latter class I now propose to treat. In previous articles the mode of constructing rockwork has been described, and such will be found suitable for the successful cultivation of a large proportion of the most showy species; indeed, many of these will succeed in an ordinary border. Rockwork, however, best imitates the natural conditions in which they grow. The general hints as to filling the crevices, and covering ledges with soil, given in a former communication, will be found to answer well for the majority of the plants about to be enumerated. There are others, however, that require rapid and perfect drainage, and an equally rapid and continuous supply of water, which is best secured by making that part of the rockwork destined for their reception very perfect in drainage, and having a pipe laid so that water may escape from it in a small stream, or in a rapid succession of drops, which will keep a large area below moist and cool: and others, again, require to be placed under an overhanging rock. Where, however, the treatment of any species differs materially from that of the ordinary kinds, brief notes will be appended to them.

As to soil, large masses of it are not essential to success. Many of them grow better on the bare rock than with much soil under them. Coarse sandstone broken of all sizes and forms, from sand to the size of a hen's egg, with a small addition of loam or peat, and kept constantly moist, will grow many kinds with a vigour quite surprising.

ALYSSUM SAXATILE, flowers yellow. Its variety compactum is more dwarf, with dense and very showy spikes.

ADONIS VERNALIS, Anemone-like yellow flowers, larger than a crown-piece, produced before those of the Alyssum, in spring. It requires a compost of loam and limestone.

ACHILLEA CLAVENNE, silvery foliage, flowers yellow. It does best in dry, sunny fissures; in wet soils it goes off in winter.

ACHILLEA AUREA, as its name implies, has golden heads of bloom.

ACENA NOVE-ZEALANDIE, forms a close carpeting on rockwork, with crimson spikes of bloom. Very sandy peat and loam, and little of it.

AJUGA ALPINA, compact habit, erect spikes of deep blue bloom. It and its variety rosea, with smaller flowers of purplish rose, require sandy or gritty loam. A reptans variegata is oftener green than variegated-leaved.

AGROSTEMMA CORONARIA, with bright rosy crimson flowers; A. coronaria bicolor, white, with rose centre: and A. coronaria splendens, of a brighter crimson than the species, do well on the lower parts of the rockwork in loam and gravel. In soil of the same kind they do uncommonly well in borders, and though this plant has fine silvery leaves it is not cared about, being old, and in nearly every cottage garden of any standing. There is, I believe, a double crimson variety.

ALCHEMILLA ALPINA, and its variety conjuncta with A. pentaphylla, are all we need care about under this head, pretty-leaved, and curious-flowered though they be.

ANTENNARIA HYPERBOREA, is a silvery-leaved plant, that



may some day be employed as an edging to beds, as well as for the upper parts of rockwork. Sandy loam.

*ATRIETIA DELTOIDEA*, and its variety *grandiflora*, cover rockwork, both in sun and in shade, and bloom nearly all the year round.

*ARENARIA CESPITOSA*, *CERASTIFOLIA*, and *BALEARICA*, the last being a tiny creeper upon rocks, and having multitudes of little white flowers, need very gritty soil, with just water enough to keep it moist.

*ANEMONES* are numerous. One of the best is *A. apennina*, sky blue, grows anywhere if it has plenty of loam and leaf soil. *A. ranunculoides* is a Wood Anemone, with yellow flowers. The double white (*A. nemorosa plena*), and double red (*A. nemorosa rubra plena*), are indispensable for shady fissures filled with rich loam and leaf mould. *A. sylvestris* has white flowers early in summer, but *A. alpina* is the most stately of the white-flowering kinds, and succeeds well in deep sunny fissures. *A. coronaria*, or the garden Anemone, affords a great variety of brilliant colours. Among others of the same family, I must name *A. stellata* or *hortensis*, with rosy purple flowers; *A. palmata*, with Cyclamen-like leaves, and golden yellow flowers; and *A. sulphurea*, with lemon-coloured flowers, and which requires grit and stone along with the loam, and sunny, sloping banks.

*ARNICA MONTANA*, flowers orange yellow; solitary.

*AZALEA PROCUMBENS*, delights in sun, and moist gritty peat soil.

*ARABIS LUCIDA VARIEGATA*, is neat for sunny fissures, and *A. caucasica variegata*, is nearly as free as *A. alba* and *alpina*. Flowers white.

*ASTER ALPINUS*, flowers large and solitary, lilac purple. There is a white variety.

*AQUILEGIA ALPINA*, a charming Columbine for shady fissures containing turfy loam, moist, but well drained. The flowers are purplish blue with a white centre.

*ARETIA VITALIANA*, forms a carpet of yellow bloom, and like *Androsace*, requires moist grit in sunny fissures.

**ANDROSACE**.—This genus gives us *A. carnea* with Saxifrage-like foliage, and rose-coloured flowers, with a yellow eye; *A. lanuginosa*, silvery trailing foliage, flowers lilac and white, in umbels; *A. ciliata*, rose colour; *A. coronopifolia*, white; and *A. chamaejasme*, white, with yellow eye. All succeed in sunny fissures under overhanging rocks. Moist grit with a little peat. They should be kept moist by filtration from above without wetting the foliage, especially in winter.

*BRYANTHUS ERECTUS*, a little evergreen shrub with pink flowers, by some said to be a natural hybrid between *Rhododendron chamaecistus* and *Kalmia glauca*. Moist peat and grit, and a sunny exposure.

*BELLIS PERENNIS AUCUBEFOLIA*, the finest of the Daisies for the lower parts of rock; moist loam.

**CAMPANULAS**.—No plant is more effective on rock than *C. garganica*, from its pendant habit and sheets of lilac flowers. *C. mrralis*, *C. pulla*, difficult to obtain true, *C. hederacea*, and *C. alpina*, succeed in sunny fissures in sandy loam.

*CERASTIUM TOMENTOSUM* and *C. BIEBERSTEINI* are well known as edging plants, and never look so well as on rockwork.

*C. ALPINUM* is by no means so easy to grow as the two preceding. It forms dense, prostrate, silvery tufts, and is impatient of wet on the foliage. Peat, loam, and grit, kept moist.

*CAREX NIGRA* is suitable for the base of rockwork, where the roots can reach water, being best on the margin of such.

*COCHLEARIA GROENLANDICA* needs peat and loam, with grit, kept wet.

*CHEIRANTHUS ALPINUS*, a lovely bright, dwarf, yellow Wallflower, doing best in sunny fissures filled with loam and sandstone. *C. Marshalli* is well known for its dwarf habit and orange flowers.

*COLCHICUM ALPINUM*, rosy-purple flowers in autumn and winter; of dwarf habit; slopes of deep loam. It is somewhat rare. From the Alps.

**CISTUS**.—I may enumerate the following species—viz., *C. formosus*, yellow, with dark spot in the centre of each petal; *C. algarvensis*, yellow, with dark ring in the centre; *C. lusitanicus*, yellow; *C. albidus*, whitish leaves and pale purplish flowers; *C. salvifolius*; *C. Ledon*, and *C. ladaniferus* with white flowers; *C. purpureus*, *C. creticus*, purple; *C. roseus*, rose-coloured. They are somewhat tender, requiring sunny slopes, and loam upon limestone, or the last mixed with the soil.

*DAPHNE CNEORUM*, trailing over rockwork when planted in fissures in peat and loam, well drained. It does better on limestone rock than on sandstone. Flowers pink, produced abundantly, and very sweet.

*D. mezereum autumnale* is a fine autumn *Mezereum*. Both for sunny exposures only.

*CYCLAMEN REPANDUM*, bright rose, blooming in spring. On warm ledges or fissures only, well drained, nearly dry in winter, and having a rather shady exposure; peat and loam with an equal proportion of grit. The following require similar treatment, and are beautiful for rockwork:—

*C. COUM*, red, blooming out of doors in February and March unless prevented by frost. It need not be so dry in winter as *repandum*. *C. coum vernal* has irregular blotches of silver on the leaves, and blooms later.

*C. EUROPEUM* blooms in summer and autumn, red, fragrant.

*C. ODORATUM*.—I am inclined to question whether this is more than a variety of the preceding. It has pale and almost white flowers, having a delicate scent.

*C. NEAPOLITANUM*, or *C. hederacifolium*, rose or pink, and its white variety are beautiful, both in flowers and foliage; the flowers appear before the leaves.

*CROCUS NUDIFLORUS* is an autumn purple-flowering species, for deep fissures of rich loam. *C. nivalis* or *Sieberi* is a light violet-flowering autumn and winter species.

*CORONILLA GLAUCA*, yellow, in warm situations in sun, and in fissures of loam well drained. *C. varia* and *C. coronata* will be found useful yellow-flowering under-shrubs or shrub-like plants.

*CORNUS CANADENSIS*, a Dogwood for moist well-drained peat and grit.

*CONVOLVULUS SEPIMUM ROSEUS*, rose-coloured variety of the white wild *Convolvulus*. Planted in loam in sunny exposures it runs over rocks, and is quite a novel and charming feature. The white *Convolvulus*, so common and troublesome a weed, is indeed charming for a like purpose.

*DIANTHUS ALPINUS*, very dwarf, rose-coloured flowers produced in great profusion; peat, loam, and grit in deep sunny fissures, kept wet, but well drained. *D. deltoides*, *D. floribundus*, fringed pink flowers; *D. fragrans*, like the last, fringed, but with white flowers, and very sweet. The varieties of *D. Heddewigii* do well in sunny situations.

*DRABA AIZOIDES*, dwarf, yellow; flowers in a sunny part of the rockwork in spring; loam and grit. *D. boetica* is very like *D. aizoides*, but paler in colour.

*DRYAS DRUMMONDI*, a trailer with sulphur flowers. *D. octopetala*, fine pendant evergreen foliage, and creamy-white flowers; moist peat and limestone fissures.

*ERIANTHUS RAVENNE*, a very ornamental and stately Grass; sand and loam kept wet.

*ERINUS ALPINUS*, a beautiful plant for old walls; flowers rosy purple; its variety, *roseus*, is dwarfer and has larger flowers of a rosy pink.

*ERIGERON SPECIOSUS*, flowers purple with a yellow disc, of long continuance. *E. grandiflorus* has lilac flowers with a yellow centre; sandy loam.

*ERICAS vulgaris*, *Hammondi*, *rigida variabilis*, *variegata*, *decumbens*, and *Alporti*; *carnea*; *E. tetralix alba* and *rubra*; *E. scoparia* and *mana*; *E. cinerea alba*, and varieties *rosea*, *rubra*, and *atropurpurea*; *E. stricta ciliaris*; *E. mediterranea*; *E. herbacea* and its variety *carnea*; *E. vagans alba*, *carnea*, and *rubra*, are what I have had in fissures and slopes of rock in peat and grit, and they are alike ornamental in foliage and bloom, which varies in colour from white to deep rosy scarlet. In summer they should not be allowed to dry up for want of moisture; they rarely do so after they become established, but are apt to suffer for a year or two.

*ERYNGIUM MARITIMUM*, a dwarf Holly-like plant, with silvery leaves; plenty of moisture and deep light loam and stones are essential. *E. alpinum* had large and showy bluish involucres; sand and loam.

*ERIOPHORUM ALPINUM*, or Alpine Cotton Grass, has small cottony heads, and forms a dense dwarf turf; wet peat and grit on ledges.

*EUPHORIA PORTLANDICA*, for hot sunny fissures only, where the leaves and stems become scarlet; sand without any addition.

*GENISTA PROCUMBENS*, prostrate, triquetra, and *sagittalis*, excellent yellow-flowering under-shrubs; sandy loam and peat.

*GERANIUM ARGENTEUM*, a silvery-leaved hardy Geranium. I have notions in respect to it as a bedding plant; rare or little known; habit dwarf and prostrate; flowers white or bluish, veined with purple. *G. sanguineum* and *lancastriense* are well-known British plants.

*GLECHOMA HEDERACEA FOLII VARIEGATIS*, handsome, creeping over rocks and running in fissures kept moist; loam.



*GNAPHALIUM HYPERBOREUM*, or *Antennaria hyperborea*, is a fine edging plant; everybody should have it, being dwarf and both sides of the leaf silvery. *G. leontopodium*, dwarf, and good, is a mass of white cotton; grit, with a sparing mixture of peat and loam.

*GEUM MONTANUM*, flowers yellow, large and solitary; grit, peat, and loam.

**GENTIANAS.**—Of these *G. acaulis* and *alpina* are nearly related, but the flowers of the latter are less than those of the former, but both are fine. Besides these there is such a host of beautiful species that it is no easy task to enumerate them. *G. verna* has charming bright blue flowers, more than an inch across. Loam and stones, and I imagine it flourishes best when pieces of limestone are mixed with the soil; it requires good drainage and a good supply of water. I may name in addition *G. Fortunei*, *G. lutea*, *G. ciliata*, and *G. bavarica*, which are all beautiful and but little known. All the family succeed well in fibrous loam, with gravel or limestone forming the understratum, and if moist in summer and dry in winter all the better. They like sun and open exposures. Some few, as *G. Fortunei* and *G. pneumonanthe*, require peat, and grit, and that moist.

*HEDYSARUM OBSCURUM*, has ornamental spikes of purplish crimson flowers. Loam and grit or sand, kept moist.

*HYPERICUM CALYCINUM* (St. John's Wort), flowers yellow and solitary. Loam, sandy peat, and gravel or limestone.

*IBERIS SAXATILIS*, *I. Tenoreana*, and *I. sempervirens*. White flowers in dense masses. Loam and a sunny aspect.

*LEPIONUM RUPESTRE*, requires sand in deep sunny fissures, and a sheltered situation. Like all plants enjoying the sea breezes, it is tender.

*LINARIA CYMRALARIA VARIEGATA*, leaves creamy white, sometimes rose and green. *L. alpina* is a pretty plant for sunny crevices among rockwork. Loam and grit kept moist.

*LITHOSPERMUM FRUTICOSUM*, evergreen and hardy. Ledges of rockwork, with a warm aspect. Peat, loam, and grit.

*LINUM MONOGYNUM*, dwarf; flowers white. A moist sandy loam, well drained. *L. alpinum* has pretty little blue flowers, and *L. flavum* with yellow flowers is well known.

*MECONOPSIS CAMBRICA*, flowers yellow, and a weed with me in light loam or gravel. Prefers a shady position.

*MIMULUS CUPREUS*, dwarf and creeping. A very ornamental plant for rockwork, though of little value for bedding-out. Flowers yellowish orange. Moist loam, peat and sand, in slight shade.

*MENZIESIA POLIFOLIA*, and its white variety *globosa*, are effective rock plants. *M. empetrifolia*, with rosy purple blooms, is very pretty. Moist peat and grit, and a sunny position.

*MYOSOTIS AZORICUS*, flowers purple changing to blue. Requires moist loam and grit. *M. montana* blooms in early spring, and *M. alpicola*, deep lilac, with sometimes a yellow eye, in May. Both require shady fissures, or ledges, and continuous moisture, with perfect drainage. Of *M. palustris*, bright blue with pink eye, I have an edging 50 yards long, and a foot broad, and it is never out of bloom, more or less, from April to December. It likes moisture, and slight shade, but sun if the moisture be constant; *M. sylvatica*, loam or gravel.

*OMPHALODES VERNA*.—Blue flowers in loose spikes, produced early in spring. Very sandy loam and leaf mould, on warm ledges of rockwork which are shaded in summer.

*OXYTROPIS URALENSIS*, a dwarf, procumbent plant, with silvery leaves, and purple flowers. Grit and fibry peat, kept moist, and a sunny exposure.—G. ABBEY.

(To be continued.)

## THE CULTURE OF THE MANGOSTEEN FOR THE DESSERT.

In the last Number of your Journal I briefly gave the result of my experience in growing the Mango. I now purpose saying a few words about the Mangosteen (*Garcinia mangostana*), another tropical fruit, almost unknown in England, which I have successfully cultivated. This tree, although more difficult to grow than the Mango, is well worthy of a place in every fruit stove, as not only is the foliage graceful and the flowers large and ornamental, but the fruit is one of the most delicious known, being preferred by many persons to the Mango.

The Mangosteen is a native of Borneo and one or two of the adjacent islands, where it grows to a moderate-sized tree. The leaves are about 9 inches long, in shape somewhat like a Laurel, of a fine green on the upper side, and dark underneath.

The flower, which resembles a Camellia, but is larger, is of a deep crimson colour, and very fragrant. The fruit is about the size of an ordinary Apple, and when ripe turns to a dark brown, curiously spotted with green. Internally it is divided into cells like an Orange, each division being filled with a pulp of the most delicious taste, combining the flavour of the Pine Apple, Grape, and Apricot, with one peculiarly its own.

In order to grow the Mangosteen successfully, it should be planted in a deep tub or box, well drained, and either trained against a back wall of a hothouse or grown as a standard. The soil should consist of equal parts of good turfy loam, well cut up, but not sifted, and leaf mould mixed with a little sand. The following is the best method of cultivation.

Towards the middle of January the boxes containing the plants should have a good top-dressing of fresh loam, mixed with a little rotten cowdung, first removing as much of the old soil as can be got out without touching the roots, the plants may then have a good watering with very weak liquid manure, and the temperature, which during the two previous months should have been 75° by day and 60° by night, may be raised to 80° by day and 70° by night; the trees should be frequently syringed, and the house kept moist and close, little or no air being required for the first fortnight.

As soon as the new leaf-buds begin to open the temperature must again be raised 5°, and may range between 85° and 95° in the day, and 70° to 75° by night. Air will now be needed in order to strengthen the young wood, and it may be given in small quantities during the middle of the day; but it should be borne in mind that the Mangosteen loves a close atmosphere, and requires less air than any other stove fruit.

When the young wood is about 2 inches long, the flower-buds will begin to show themselves, and as soon as they are the size of large Peas the shoots may be stopped, allowing only two or three buds on each shoot; unless this is done the tree is apt to run too much to wood, and the fruit is not nearly so fine. The trees should now be kept very warm and moist, frequently syringing them overhead until the flowers open, but taking care not to overwater the roots. In a week from showing colour the flowers will begin to open, and the rich hue of the blossom, together with its large and striking appearance, renders the trees at this time most beautiful objects, sometimes from thirty to forty blossoms, each as large as a full-grown Rose, being open at a time.

As the flowers open they must be set by hand, as unless this is done, in England the fruit will not swell. Strange as it appears, hardly a fruit is produced without taking this precaution. As, however, the flowers are large, and the pollen most abundant, the operation is an easy one, and it should be performed early in the day.

The flowers continue to open for some weeks in succession, and it will be necessary, if the sun is hot, to give a little shade in the middle of the day for about two hours when the trees are in bloom. As long as there are any blossoms open the syringe must not be used, but the house may be kept moist by sprinkling the pipes or flues. Air must be given but sparingly, and the house should be shut up closely by two or three o'clock in the afternoon.

When all bloom is over, and the fruit begins to swell, the trees can again be well syringed every night until the fruit is ripe. When this takes place—which may be known by the fruit turning brown, and emitting a faint but very pleasant scent—no more water must be given over the foliage, and the house itself should be kept drier, the temperature being about 90° or 95° by day, and 10° lower at night.

The fruit when ripe will hang for seven or eight weeks if the house is kept dry and close. In gathering be careful to cut, not pick the fruit, and to take those which are ripest first, leaving the largest, which always hang the best. In serving for dessert the fruit should be garnished with its own leaves and flowers, a few blossoms always appearing about the time the main crop is ripe.

As soon as the fruit is all off, which will not be before November, the temperature of the house should be lowered to 80°, and air admitted in the mornings of fine days. All the new shoots must be cut back to within a foot or 18 inches of the old wood, thinning out straggling and weak branches, and picking off the decayed leaves. The plants must be kept dry, giving only sufficient water to keep them from flagging.

The Mangosteen is easily raised from both cuttings and seeds, the latter should be sown as soon as possible, as they will not keep.

Like the Mango, the Mangosteen delights in a high tempera-



ture, no amount of atmospheric heat seeming to injure it. It is rather liable to the attacks of insects, particularly the green fly, which attacks the young shoots, and the tree must be constantly searched to discover these pests; they are generally found under the young leaves or on the flower-buds. Tobacco water is, I think, the only remedy.

As an ornamental tree the Mangosteen is unrivalled: the blossoms, too, are invaluable for dressing ladies' hair, or for bouquets, as they last for many hours without fading, and give a beautiful and refreshing scent, somewhat resembling the Stephanotis. There is a variety grown in Borneo with white flowers remarkably fragrant, but I believe it has not been introduced as yet into England.

I had intended saying a few words about the Durion and Anona, both of which I have fruited, but will postpone what I have to say until next week.—J. H.

### ROSES IN GROUPS.

An excellent practical article with the above heading appeared in the Journal of May 23rd. of the present year, from the pen of Mr. Abbey. Although the distinguished rosarians appealed to for the information sought have not replied, the subject is sufficiently important not to be allowed to drop, especially as the copious rains that have fallen since the heat and drought of September, have rendered the soil highly favourable for the formation of such groups. The few suggestions now offered are not presumed to satisfy the inquiry, for the conditions attached to it are too stringent to be literally fulfilled, yet the time is not far distant, judging from the improvements that are gradually being effected, when a sufficient variety of Roses will be in cultivation to answer the requirements Mr. Abbey has specified. Already we have kinds of the highest merit, which, as Mr. Radclyffe truly says—"It will take half a century to beat." The possession of these has created the desire for more of the same excellence. In time we hope they will appear.

The directions for preparing the beds, given in the article above alluded to, are simple, but at the same time indispensable to secure good growth and free blooming. "The ground should be well drained, deeply dug, and liberally supplied with manure." And in after-times, if the manuring is continued with occasional mulching to admit free action of sun and air, and watering in very dry weather, now and then with manure water if obtainable, the beds will last for years. A plant or two may die if too much neglected, but this is a contingency not likely to happen if well-established strong plants are put in at first.

The best form of the plants intended for grouping, especially on light soils, is undoubtedly those budded on the Manetti stock. Mr. Abbey says truly—"The Manetti after two or three seasons does not cause trouble on account of suckers, and is never half so bad in this respect as the Dog Rose." The soil of my garden is of the lightest, and I experience this truth constantly. In the present year I have not had twenty suckers from 150 Manetti Roses, while the briar Roses have been a source of continual trouble on that account. My first Manetti Roses, planted five years ago, have not sent up half a dozen suckers in the whole time; they are still in a most satisfactory state of health and vigour. Even on heavier soils the Manetti is not unfavourable for grouping. In the early part of the summer of the present year, my good friend Mr. Goddard, gardener to H. Bannerman, Esq., of Hunton Court, near Maidstone, pointed out two groups which he had formed, and which were on the Manetti; they were then just coming into bloom, and for brilliancy of colour, freshness of foliage, and other good qualities that we like to see, they were very evidently superior to any in the garden on the briar, of which there are a considerable number. They were also quite equal in bloom, and superior in vigour to those on their own roots, although Mr. Goddard has for some time past successfully propagated and grown Roses on their own roots, and gives that form the preference. It should be remembered that in putting in Manetti plants in light and deep soil, from 4 to 6 inches below the point of union is not too much.

The conditions which Mr. Abbey insists upon as being requisite in Roses for grouping, may be thus summed up:—1, They must have good flowers. 2, They must be profuse bloomers. 3, They must have free and healthy foliage, and be of strong and vigorous habit, but not rampant. All rosarians are agreed that the above qualities are always desirable, and

when any appear possessing them in a greater or less degree they are pronounced A1. A supplementary negative condition is added to the above. "Those that are inconstant, or those that only open occasionally and produce few blooms, or more imperfect than perfect ones, are useless." Such are General Washington, Sœur des Anges, and in some seasons La Reine, Souvenir de la Reine d'Angleterre, and others of that class, which, beautiful as they are when they do come, cannot yet be dispensed with as exhibition flowers. They must be omitted in grouping on lawns. "A combination of hardiness, dwarf habit, profuse foliage and bloom is most wanted;" therefore, only such as possess these qualities should be planted; for a group on a lawn must be necessarily conspicuous at all times, more especially when in flower, and this must be more or less for five months of the year. Most people would prefer variety, but it is not yet possible to furnish even a limited variety possessing the requirements to the letter; but it is quite possible to form a group that shall be good and pleasing. The best I ever saw was formed and planted by Mr. Radclyffe, at Critchill, the seat of H. C. Sturt, Esq., in Dorsetshire. This group consists of more than one hundred plants all on the Manetti stock, and comprises the *élite* of the Hybrid Perpetuals. It is highly admired and gives a very attractive feature to the beautiful grounds at Critchill. The plants are arranged with the most vigorous in the centre, and the dwarfer kinds round the outside.

In forming a group of Roses on a lawn, the situation, size, and shape of the bed must influence the arrangement of the kinds planted. If the bed is a small circle, oval, or rectangle—for simple figures are always the best—the varieties selected should be of uniform habit, and if situated apart, dwarf and compact-growing kinds are preferable. If the bed is large and not required to be viewed at a glance, it will be well to plant strong-growing kinds in the centre with dwarfer ones towards the outside, as is done at Critchill. If the bed is only to be looked at from one side, it will evidently be the best plan to plant the strongest kinds at the back and the less vigorous towards the front.

As regards the kinds suitable for this style of planting, my own idea of a small bed would give a decided preference to one kind to each bed, if several small beds are to be formed, because we possess Roses that fully come up to the standard recognised by Mr. Abbey, and I think correctly. Such is Charles Lefebvre, which has eminently every desirable point of excellence, and not inferior to it is Senateur Vaisse; Cecile de Chabillant must also claim a place, after the other two only in not being quite so free-blooming in the autumn months. More vigorous and sturdy in habit, but, nevertheless, more prolific is Jules Margottin, our old favourite. Caroline de Sansal is also well adapted for the same purpose. A bed of either of these is sure to be attractive, and in the case of the two first-named grand. Effective groups of a single variety may also be planted with Général Jacqueminot, Duchesse d'Orléans, Maréchal Vaillant, Prince Camille de Rohan, and Madame Boutin. The last two, however, do not bloom quite so freely here as on heavier soils.

I subjoin two lists. The first contains kinds that are either naturally dwarf or may be kept so by a judicious use of the pruning-knife. Their height should not be allowed to exceed 2 or 2½ feet. The second list consists of more vigorous varieties, which should be allowed to grow to the height of 3 or 4 feet as may be required. They will do better supported by a neat stake of wood, or still better by a slender iron rod painted, or covered with pitch. Green paint seems the most appropriate. Both lists contain some varieties that would not be considered good enough for exhibition flowers, but they compensate for this defect, if defect it is, by blooming freely. There are none inserted but what have been proved here, hence it may seem that there are omissions; to supply these must be left to the judgment of those who may avail themselves of these suggestions. The kinds are arranged according to colour, the lightest being first.

No. 1. Mademoiselle Bonnaire, Caroline de Sansal, Duchesse d'Orléans, Cecile de Chabillant, John Hopper, Baron Gonella, Louise Odier, Colonel de Rougemont, Catherine Guillot, Alpaide de Rotalier, Gloire de Vitry, Triomphe de Paris, François Lacharme, Senateur Vaisse, Charles Lefebvre, Eugène Appert, Géant des Batailles, Duchess of Norfolk, Cardinal Patrizzi, and Empereur de Maroc.

No. 2. Louise Darzens, Acidalie, Anna Alexieff, Duchess of Sutherland, La Ville de St. Denis, Jules Margottin, Madame Clemence Joigneaux, Madame Charles Wood, Madame Charles



Crapelet, Madame Boutin, Madame de Stella, Madame Julie Daran, Maurice Bernardin, Maréchal Vaillant, Général Jacqueminot, Duc de Cazes, and Prince Camille de Rohan.

The following newer kinds would probably equal many and surpass some of the foregoing. To list 1: Princess Lichsteinstein, as a white variety, seems promising so far as yet proved; Duchesse de Caylus, Rushton Radclyffe, Madame Victor Verdier, and Eugène Verdier. Lord Macaulay is one of the very best crimson scarlet Roses, and rather dwarf and compact in habit. To list 2 Elizabeth Vigneron would be an acquisition, it grows very freely and far surpasses Lælia or Louise Peyronny. A bloom of it sent to me by Mr. W. Paul, in September, was really grand in form and colour. Pierre Notting, as a darker crimson than Charles Lefebvre, is also a valuable addition. Beauty of Westerham is very free blooming in autumn and very fragrant, but hardly full enough for exhibition. Recent information on the newer sorts will also readily suggest other additions.—ADOLPHUS H. KENT, *Blechingley, Surrey.*

## ON AND ABOUT THE ROCKS AND SANDS OF TENBY.—No. 4.

LET me gather together, in conclusion, the fragments remaining scattered through my note-book.

Is it not Burkhardt who tells of leaning over an autograph on the wall of the Pyramid, and of the memories and thoughts which that autograph summoned forth?—for it was the handwriting of an old and far-off friend. Such memories and such thoughts—some more sad, probably, than Burkhardt's—were mine when I came to a memorial cross beneath the giant rocks of Giltar Point; it is on the verge of the sand in Lydstep Bay, and bears this inscription:—

"To the memory of JOHN COCKBURN THOMSON, who near this spot was accidentally drowned whilst bathing, May 26th, 1860. This stone is raised by his affectionate sister H. God touched him, and he fell asleep."

He was no commonly-gifted man. Great were the hopes justly fostered that he would take a high rank in the sacred profession to which he was dedicated, and it is no mere smooth monumental sentence which records of him elsewhere that he was noble, gentle, charitable, and devout. Yet I would not have jotted down this note had he not been the son of one still better known—Dr. Anthony Todd Thomson, one of the earliest lecturers in London on botany. In 1822 he published the first, and it is to be regretted that it was also the last, volume of his "Lectures on Botany." They first enunciated much before unrecorded relative to the physiology of plants, and deserve especially to be noted as evidence of microscopical research, when the use of the microscope for such a purpose had fallen into neglect. All the engravings and woodcuts are from Dr. Thomson's own drawings, and comprise illustrations of the vessels, glands, pores, forms of leaves, and other parts of plants far exceeding those in any other work known to me.

I passed on, revisited the wondrous Lydstep caverns, mounted to the summit of the cliffs above them, and pursued my way to Manorbier. What a quaint old church is there! arches without shafts, its ribbed vaulting, and the tomb of a De Barri. Who was thus memorialized by this mailed, cross-legged, recumbent figure?—the armour partly ring and partly plate, the shield emblazoned with the De Barri arms, the foot resting upon a couchant lion; but the natives maintain it is a bear, and that the warrior when he attacked the beast shouted, as to the issue of the encounter, "Man or bear," and that the place of conflict has retained that as a commemorative name! How etymologists agree to differ; some maintain that this locality was named from old British words meaning the Mansion of Pyrrhus (Maenor Pyrr), whilst others maintain that it is merely a corruption of the words Manor of Bere, as Barry was often spelt!

No matter—the district is replete with interest, and foremost among the *notabilia* is the castle. Its ample ruins show that it was of irregular form, surrounded by a high, embattled wall, having no windows outwardly, nor any other openings but such narrow apertures as served for observation or the discharge of missiles. Into the inner court all the windows opened; and with the same aspect is the not unusual dovecote made by omitting bricks in a chequered arrangement from one of the walls. It would not harmonise with your purposes to describe the ruins more in detail, but I may add that the park wall, of some extent, is still traceable, and between it and the main road a narrow wooded valley marks where the garden,

orchard, and vineyard, and Hazels were when Giraldus wrote some six centuries since, and the little stream trickles on which he mentions, and which sustained the fish-ponds of his boyhood.

That Giraldus de Barri—better known as Giraldus Cambrensis—was a memorable man; he was our first topographical writer, and he was born in this Castle of Manorbier in or about 1146. He travelled through Wales with Baldwin Archbishop of Canterbury in 1188, and with a feeling with which I fully sympathise, he thus speaks of the place of his birth and boyhood which he then revisited:—

"The castle called Maenor Pyrr, or mansion of Pyrrus, is excellently well defended by turrets and bulwarks, and is situated on the summit of a hill extending on the western side towards the seaport, having on the northern and southern sides a fine fish-pond under its walls, as conspicuous for its grand appearance as for the depth of its waters, and a beautiful orchard on the same side, enclosed on one part by a vineyard, and on the other by a wood remarkable for the projection of its rocks and the height of its Hazel trees. . . . Maenor Pyrr is the pleasantest spot in Wales, and the author may be pardoned for having extolled his native soil, his genial territory, with a profusion of praise and admiration."

I could jot down much about this birthplace of old Giraldus, and show of its management and mismanagement, until finally the King, our fourth Henry, declared it forfeited, and wrenched that and the manor of Penally, with some others, from the De Barry's, and handed them over to a courtier, one John Windsor; but enough, and now for Stackpool Court.

He who has not passed along the approach to Stackpool Court has yet to be gratified by the sight of one of the finest approaches in the British islands.

Stackpool Court is a comparatively recent acquisition of the Cawdor family. Its earliest recorded possessor was Sir Elidur, or Leonard de Stackpool, a crusader, whose cross-legged effigy, in chain armour, reclines in the neighbour church of Cheriton. In the sixteenth century Stackpool had the Vernons as its possessors, from whom it passed to the Lorts, whose heiress at length brought it to the Cawdor family by marriage with Sir Alexander Campbell. But again I must whip off from archaeology, and pursue more congenial game.

What magnificent Beech trees are at Stackpool, not old picturesque wrecks like those at Burnham, but giants, and giants in the fullest vigour of Beech-hood. But even these are second to the Evergreen Oaks, than which I never saw such magnificent specimens, with stems 3 feet in diameter and 70 feet in height; and when I mention these and the Beeches as specimens, let it not be concluded that they are few and choice, they are to be counted by hundreds. The climate is all in their favour, for the grounds have a southern aspect, and slope down to the sea, and the trees descend the slope and dip into the water of one of its estuaries. Rarely is such a combination of mountain, water, and foliage seen; it is like a section of the Wye taken bodily and deposited here. The abundance of shade is opposed to the display of flower gardening. Mr. Slater, the head gardener, has managed to find space for a small geometric garden, but its beauty cannot be appreciated from being on such a level that there is no good point to look upon it from. It would appear to more advantage if sunk. Everything looked vigorous and healthy, and all around the estate I noted that air of comfort in the cottages, and that love of window plants, which is to my mind the best evidence that happiness prevails within. Who cares to adorn an unhappy home?

Since the foregoing was written I find that full forty years since the then Earl of Cawdor made especial efforts to promote an attention to gardening among the cottagers. His head gardener, Mr. Buchan, thus writes upon the subject:—

"His lordship, ever anxious to promote the comforts of his dependants, gave directions for additional chambers, and a better system of ventilation in his cottages; to repair the exterior in the cottage style, and build new ones where wanted. I was then instructed to put the gardens in a proper form behind each cottage, and to make a court in front, for the cultivation of flowers. I furnished them with such fruit trees as were best adapted for that climate, and stocked their courts with herbaceous plants, shrubs, and creepers of the common kinds; informing the cottagers at the same time that they would have to keep the whole in good order for the future; and I must here observe, that the information was not received with a good grace by some of them, prejudiced as they were against the introduction of anything new.



"Five premiums or rewards, of different value, were then offered to those who had the best cultivated gardens, and most flowers in their courts, and about the 10th of August I inspected their gardens, and awarded the premiums. As the garden labourers, from the nature of their employment, had some advantage over the others, they were not allowed to compete with them, but were competitors among themselves; and the premiums were not confined to those who had had their gardens put in form for them, but extended to the cottagers of the three parishes.

"The successful candidates were so elated with the idea of having gained a prize, and the others flattered with the hope of doing the same the following season, that the spirit of gardening soon became general, and cuttings of fruit trees, plants, and flower seeds were in great request with those very individuals who were most prejudiced against them at the formation of their little gardens.

"The village of Stackpole was new frequented in the summer season by the ladies and gentlemen of the neighbourhood to see the flowers and improvements of the cottages; and many of the labourers, who had worked about the gardens for years, and never asked the name of a plant, began to ask the names of flowers that a certain lady or gentleman had admired the preceding day.

"Two years before I left Stackpole Court the premiums were discontinued, being considered unnecessary; and it was gratifying to see that the cottagers paid the same attention to their gardens, in the evenings and mornings, as usual; they had experienced the comfort and advantage arising from so doing; for their fruit trees were now in a bearing state, and their market for common fruits and early vegetables was tolerably good."

It is most gratifying to find that the influence of such encouragement is enduring, and not only enduring, but is contagious; for I noticed that excellent window plants, and good kitchen gardening prevail over the adjoining districts, and contrast most favourably with the neglect of gardening so characteristic of North Wales.—G.

### NEW ROSES.

WHAT good is there in clairvoyance, electro-biology, or second sight? Where are those wretched beings called mediums, but whom the United States tax-gatherers properly call jugglers? Why don't they come to our rescue? Will Mr. Home, or Alexis, or Madame Card, or even Sandy McAllister with his second sight, tell us something about the new Roses? Of all the arrant "hums" of the day this spiritualism is the greatest, for why does it not do something useful for us? I don't see the good of setting one's sofas and round tables dancing a polka, or of twitching one's legs with an invisible hand, or sending tambourines and fiddles flying through the air; and as to the calling-up of spirits, about the most sensible thing I have heard of Pius IX. doing was his giving Mr. Home notice to quit. If, indeed, they would tell us what Roses to buy—which of the ninety or hundred, as the case may be, are worth having—which do the growers themselves know to be bad, or on what do they lay the greatest stress—if any of our spiritualists would do something of this kind for us, we should then be perhaps inclined to say there was something in it. However, here are the lists; and in spite of "ROSA ANGlica," or "ROSA CANINA," (which I should think means dog in the manger), I must now do as I have done before.

As when in early days (although I used not to walk the hospitals, yet many a day found me in the lecture-room, where some "don" was holding forth on one of the various branches of medical science), I used often to be courteously invited to come to the dissecting-room, they had got such a "capital" subject (I have no doubt they say now-a-days such a "jolly" subject, but the word was not known then), and the eye of my friend would glisten at the thought of what cutting and hacking there would be; so now I, as the inviter, must ask the kind readers of THE JOURNAL OF HORTICULTURE to come with me, with penknife and spade, and cut away, or dig up, or east upon the dunghill, many a limb of that very interesting and exciting production, the catalogue of new Roses.

Before I do so a word or two on those of last year may not be unacceptable, that the correctness of one's surmises may be tested. I find that those of the Hybrid Perpetuals which I conjectured or thought, from having seen them, would be good were \*Duchesse de Caylus, \*Rushton Radclyffe, \*General

d'Haultpoult, \*Duchesse de Medina Coeli, Madame C. Verdier, Xavier Olibo, \*Souvenir de William Wood, Charles Margottin, Marguerite de St. Arnaud, Jean Rosencrantz, Triomphe de la Terre, \*M. Moreau, Charles Wood, Souvenir de Bernardin de St. Pierre, and \*King's Acre. Those marked with an asterisk were praised in last week's JOURNAL OF HORTICULTURE by Mr. Radclyffe from his knowledge of them; while of those not included in it the only one was Duc de Wellington, of which I hoped good things, and Mlle. Amélie Halphen; for Elizabeth Vigneron I had not seen advertised at the time I wrote the notes. Madame C. Verdier, I am inclined to think, will be an excellent Rose; but Xavier Olibo I have not seen or heard of, still I believe we shall hear of him again.

Adopting the plan I did last year of keeping the Roses under the names of the raisers, I shall begin with the heaviest contributor to our lists, M. Eugène Verdier. That he should send out so many is, I think, detrimental both to himself and to us. I feel sure that it would be far better to send out some four or five than this round dozen, which frightens growers.

#### M. EUGÈNE VERDIER, FILS AÎNÉ.

1. *Alba Mutabilis*.—Vigorous. A seedling from Jules Margottin. Flowers large, 9 centimètres in diameter (about 3½ inches), full, white tinted with rose, and becoming completely shaded with rose in proportion to its opening.

2. *Charles Rouillard*.—Plant vigorous, about 10 centimètres (4 inches), in diameter; form perfect, full. Beautiful tender rose, more lively in the centre.

3. *Fisher Holmes*.—Very vigorous and free-flowering. Flowers large, fine, imbricated like a Camellia, magnificent brilliant scarlet red.

4. *John Grier*.—Very vigorous. Flowers large, flowering in clusters of six to twelve, full, fine shape, globular, sweet-scented, clear red or shaded rose; reverse of petals silvery.

5. *Jean Lambert*.—Vigorous. Flowers very large, 12 centimètres (4½ inches), in diameter, full, shaded fiery red. The buds are extraordinary, and resemble a pigeon's egg.

6. *Mademoiselle Marguerite Dombain*.—Vigorous. A seedling from La Reine. Flowers very large, 12 to 14 centimètres in diameter (4½ to 4¾ inches), full, globular, and well-formed, very sweet-scented, beautiful virgin rose, very tender and very fresh.

7. *Prince de Porcia*.—Vigorous. Flowers full, well-formed; colour beautiful vermilion, richly shaded.

8. *Professeur Ducharte*.—Vigorous. Flowers large, flowering in clusters of four to six, full, globular, well-formed, clear red; reverse of petals satiny.

9. *Souvenir d'Abraham Lincoln*.—Vigorous. A seedling from Cardinal Patrizzi. Flowers medium, full, well-formed, crimson shaded with red, purple, and rose.

10. *William Rollison*.—Very vigorous. Flowers large full, globular, magnificent lively cherry red.

M. E. Verdier brought to me, as I have before mentioned, a few of the above when I was at Paris in June, and of two of these in his list I can speak favourably. No. 1 was an exceedingly delicate and pretty flower, but not very large; I should have called it a pale rose. No. 6 is unquestionably, as I saw it, a noble-looking flower. Its parentage might suggest difficulty in opening; but I do not think that this need be feared, for the buds are of quite a different shape, long, and not globular, and when this is the case I do not think there is much doubt as to its opening. No. 5 is a large flower, coarse to my mind, and somewhat difficult, I imagine, to open in our climate. Of the others I know nothing. Evidently 9 is too small for our requirements. I have not translated those parts which have reference to foliage, for our neighbours are more curious in such matters than we are. Whether thorns are red or brown, straight or recurved, foliage pale green or apple green, are not matters about which we take much concern, and I have therefore not burdened my paper with these matters.

#### M. LACHARNE,

The raiser of Charles Lefebvre, and the possessor of an indubitable yellow Perpetual, deserves an honourable place; and one, at any rate, of his Roses for this year is likely to add to his reputation as one of our first raisers.

11. *Alfred Colomb*.—Plant vigorous, having some analogy to Charles Lefebvre. Flowers large, full, form of Centifolia, very lively fiery red. Superb.

12. *Prudence Besson*.—Plant very vigorous, having some analogy with Souvenir de la Reine d'Angleterre. Flowers very large, nearly full, well formed, carmine red. Very effective.



13. *Souvenir de Docteur Jamain*.—Plant very vigorous. Flowers large, full, well-formed, bluish violet, new colour.

Laclarme was kind enough to send me up to Paris a box of blooms of No. 11, and I have no hesitation in pronouncing it to be a grand Rose; to me it seemed a combination of the good qualities of Charles Lefebvre and Senateur Vaisse, evidently of vigorous habit, and very free-flowering. One can never be sure in these matters, but I shall be very much surprised if this Rose does not hold its own in the foremost rank for many a year. No. 12 sounds well, for a well-formed *Souvenir de la Reine d'Angleterre*, in lieu of the coarse and flaunting flower that that is, would indeed be a great boon. I do not fancy that 13 is of a shade of colour, however novel, that will be very much appreciated on this side of the Channel.

#### GUILLOT FILS.

14. *Joséphine de Beauharnais*.—Plant very vigorous. Flowers very large, very full, well-formed. A seedling of Louise Peyronny. Magnificent tender rose, the edge of the petals silvery. Superb.

15. *Pline*.—Plant very vigorous. Seedling of Mère de St. Louis. Flowers very large, full, varying from a beautiful red velvety vermilion to violet red. Very striking.

16. *President Mas*.—Plant very vigorous. Seedling of Triomphe de l'Exposition. Flowers very large, full, well-formed, a beautiful velvety shining red, sometimes shaded with violet. Superb.

Of these 14 and 16 are, I know, considered by the raiser fine Roses. There are several announced which seem to be seedlings of, or have a strong likeness to, Louise Peyronny or Lælia. If they are improvements on that fine flower they will be very valuable.

And now I must close for the present, not without, however, drawing the attention of our Rose-loving readers to a notice which appears in another column relative to a testimonial to the Rev. S. Reynolds Hole—a project which has been most warmly received, and has already a certainty of success. There are many rosarians who have not the pleasure of personal acquaintance with as genial and hearty an English gentleman as one meets with; but there is not one who can be ignorant of the benefits conferred on the culture of their favourite flower by the founder of the National Rose Show, and from one and all we look for countenance and support.—D., Deal.

### ON THE PROPAGATION OF CYCLAMEN PERSICUM.

CYCLAMEN cultivators have had a treat in the very valuable papers which have appeared during the last three weeks, and much useful information is now at their disposal, which was previously unattainable. Allow me, however, to inform amateur cultivators, that there is no need to wait three years for seedlings to bloom, and to detail my limited experience, in the hope that it may prove useful to amateurs like myself.

I sowed forty-four seeds of *Cyclamen persicum* on the 9th of February in the present year, in a box containing a mixture of leaf mould, rotted turves, and silver sand. The seeds were about 2 inches apart, and covered about half an inch. The box was then placed on a Randle's tank, which occupies the front of my little stove, and a bottom heat of about 70° was maintained for two months, after this the heat was increased to about 80°. Only thirty-five seeds germinated, they were about six weeks in appearing, and came up very irregularly, some of the latest being eight and nine weeks before they did so. This heat was kept up until the middle of June, when I had a severe illness which prevented my attending to my plants for about six weeks, during which time the fire was rarely lighted, and they were left pretty much to themselves. I fully expected that they were doomed for this season's blooming. However, they progressed very well under the influence of sun heat and frequent waterings. About the middle of August I potted them in a similar mixture to the above, with the addition of a little peat. When engaged in this operation I fancied I observed some incipient bloom-buds on the largest and most forward of the bulbs. In two or three weeks this suspicion became a certainty, and as the roots got hold of the fresh soil, they quickly pushed on, both in foliage and bloom-buds; and at the present time (October 25th), no less than twenty-eight out of the thirty-five are showing for bloom, the largest bulbs having from twelve to eighteen bloom-buds, part of which I hope to

see expanded in a week or ten days. Had I been able to continue bottom heat for a longer period, no doubt I should have had several in bloom at this time.—G. H.

### RAIDS AFTER FERNS.—No. 2.

#### DARTMOOR.

Still on the moor!—the fresh invigorating breezes playing around me as I go peering about bank and brae in search of something new and strange. Sometimes the bank is my best friend; sometimes the ditch; sometimes the moor. My choice would lead me to a sunny tract of moorland rather abruptly descending to the banks of a river, whose waters come tumbling headlong over huge blocks of rock; but this half-cleared moorland will only give you a certain number of Ferns—the *Lastrea dilatata*'s that do not care for much moisture, so that their roots may find shade under big stones; the smaller varieties of *Athyrium Filix-femina*, and a sprinkling of other Ferns; but down by the river the larger varieties may be found, and the water's music is always, to my hearing, so very, very sweet.

On the banks about Manaton I found some splendid specimens of *Asplenium adiantum-nigrum*; one verging towards *acutum*, and called "intermedium"; another "scarcely obtusum" but very like it—so like it, that had I not a friend with a very high title amongst the aristocracy of Fern-land, who kindly names some of my specimens, I should boldly have stated that I had found both *acutum* and *obtusum*; so strongly marked in their difference of form were these two beautiful Ferns—each with free-waving pinnae—the pinnules of *obtusum* being like little bells.

Beneath the friendly shade of banks, bright with Ferns, and trailing along which the wild Raspberry (*Rubus idæus*) may occasionally be found, we passed on our uphill-way to Heytor.

Heytor, though not the highest of the Dartmoor tors, commands more general attention from its majestic form, its ease of access, and the glorious views which greet the eye on every side of its castle-like keep. It is formed of immense rocks, piled into two grand masses, that crown the mountain top, and, in their calm and solemn grandeur, bid defiance alike to time and tempest. On the top of one of the great rocks there is hewn out a "reef-basin"—one of those ancient remains about which so much has been conjectured and so little known. We ascended the height and looked around. Beneath our feet was, as it were, the ruined city of the tors—thousands of shattered rocks lay on the green sward, caressed by tender grass and Ferns, by moss and heather—on every side nothing but heath, and rock, and moor; there was not even a bird to break the solitude by its cry and give one's heart a memory! I think I must have felt as the Sir Eger of the old romance of Graystail felt when

"He saw neither rich nor poor,  
But Moss and Ling and bare wild moor."

I know, whatever it was, that I liked it!—and it was many minutes before I raised my eyes from the scene beneath to the scene beyond. How different it was—wavy outlines of sweeping distances, of soft grey hills, crowned here and there by tors rising in silent solitude majestically towards heaven.

These tors have each their name, their separate individuality—you get to know them as you know the face of a friend. This one, with a sort of jelly irregularity of outline, as if the rocks were hob-nobbing with each other, is Houndtor; beneath its huge fragments may be found—with dark fronds seeking the light of day—a curious form of *L. dilatata*, the fructification of which is coal-black, and through a lens has the appearance of rich ripe Blackberries. To the left is Honeybagger—a name derived in some way probably from the fact that wild honey in ancient times when found near royal forest-lands was claimed by the king, and it was not till Henry the Third's time that a freeman was allowed to retain the honey which he found in his own woods. Still further to the left is Rippextor; turning still to the left, your back upon Houndtor, you see far off old Ocean's bright blue arms circling round the Ness at Shaldon, and stretching far away into the dim distance. Then your eye travels inland, where here and there are bright-looking villages nestling in peaceful valleys. There are several, but I see but one—Chudleigh—for had I not a little time before found on rocks near that pretty village a beautiful form of *Asplenium adiantum-nigrum*, with branched and tufted fronds; not only rare, but new to learned eyes?—there, also, had I found a lovely *Athyrium*, which also promises good things,



but is at present too young and tender to be decided upon. Wherever the eye rested, it rested on beauty; and I thought the fair world had seldom seemed more fair than when looked upon from the rock-basin of Heytor.

Descending from the huge rock, we passed on our way to another moorland home, and as we went we stopped at Widecombe hill to examine one of the "hut circles" or remains of the stone dwellings of the ancient Britons. These remains are very scanty in their rude proportions, but they occur constantly on Dartmoor; and from the imaginary buildings which we are able to erect from these ruined basements, they seem to agree with the description that Cæsar gives of the houses of the Britons, and with the representations of the British cabins as depicted on the Antonine column. All that in most cases is now left is a single course of large stones, rudely put together in a circle varying from about 12 to 30 feet in diameter. The door-jambs may be traced; they also are of stone, and placed nearly at right angles to the outline of the circle.

Given these premises, a wide field is left for the imaginary architect. Some see the tree-clothed hills, on which not a shrub is left, dotted about with circular buildings, in form like a soldier's tent, with the cheerful smoke curling up from a hole in the centre of the roof, while peaceful flocks and herds adorn the smiling landscape around! Others see the dwelling-places of our forefathers hidden beneath a thatch of the boughs of living trees, planted round the hut and bent to their purpose—a sort of "wood of Dunsinane"—beneath which a pastoral rather than a warlike people are hidden.—For me, I wonder where the people came from to live in the huts, where they are gone to, and how they managed to exist at all in such bleak and desolate regions, where in 1865 there is no post office, no butcher nearer than seven miles! Mayhap they did as a moor-lad told me they were now sometimes reduced to do: "When us," he said "hasn't got no mate to ate, us shoots the hathefells (heath fowl or black-cock) and ates they, and in summer us seeks the Hurts (Whortleberries) across the riding bogs; they Hurts make good dumplings."

Not far from Widecombe we took up our residence in a cottage beneath the frowning shadow of Hamildon hill. Dark, gloomy, and portentous looks this hill in a storm, and even in sunshine it only condescends to break into a grim smile; yet it is rich in flowers and Ferns. Down its rough sides streams trickle through narrow gullies, and it is these gullies that form the best hunting ground. In one, just above Wooller House, I found what seems to be a new variety of *Athyrium Filix-femina*; it is very finely serrated, in irregular pinnic and pinnules, and both frond and pinnæ are forked. I also found a dwarf *Blechnum* spicant, a neat compact little plant, with tiny fertile fronds of not more than 2½ inches in length. I had never met with this variety before, and I only found a few plants, but they grew in the locality of large *Blechnums* and gave every promise of being true. By the side of the mountain stream, interspersed with lichen-covered rock, were small bogs where I found two plants of *Pinguicula vulgaris*; directly the tiny plant was gathered its pale green leaves curved backwards lengthways; the leaves of one of the specimens were veined a deep reddish purple. The flower was of a pale lilac, with the lower part of the cup orange veined with brown. At first sight I mistook the plant for *Pinguicula lusitanica*, but I believe I have rightly named it *P. vulgaris*. Trailing over the moss, and over the stones on all sides, I found *Campanula* or *Wahlenbergia hederacea*. I had been told that I might find the *Silthoropia europæa*, but I hunted for it in vain; in Cornwall it was as common as the little Ivy-leaved Bell-flower is on Dartmoor. On the drier rocks I found several beautiful Mosses and Lichens; amongst the latter was the Coral Sphærophoron (*Sphærophoron coralloides*); seen under a lens the coral appears like a brilliant scarlet fungus growing in cup-like form on a pale green rock; on the same stone was the Elk's-horn Cup-lichen (*Seyphophorus alaicornis*), and, scattered about several others equally curious.

The hedges about Widecombe were still—though my visit was in September and October—bright with many a flower. The *Viola palustris* was full of blossoms, the dark purple lines showing clear against the pale lilac of the flowers. The little yellow star of *Hypericum humifusum* still lingered near the white-starred *Sedum album* or the more rare *Sedum dasphyllum*. I fancied that the tender purple stem of the *S. album* sought for shade more than the better protected *dasphyllum*, but it may only have been fancy.

On the moor I only found the *Ericas cinerea* and *tetralix*, with quantities of *Calluna vulgaris* intermixed. We bought

some heather-scented moorland honey, having often heard its praises sung; but though it had certainly a strong scent and taste, I found neither very pleasant. We bought it at the Widecombe shop!—for Widecombe is not behind Manaton in civilisation so far; nay, I think it is a little in advance, for while we were bartering for honey, a tea-pot, oil, and flour, a poor girl came in, with a face sorely swelled, asking to see the master. "Is it particular business?" said the lady of the incongruous wares. "Perhaps you wish a tooth extracted?—Mr. — will attend to you presently." I made my escape—but was immediately attracted by a beautifully divided *Asplenium adiantum-nigrum*, much like the Chudleigh one, in the opposite wall; I went back to borrow an old knife to root it out, and was followed by the "master" with a bricklayer's trowel (for he was mason as well as dentist, &c.), who offered his assistance in a most gallant manner, "but," said I, "the poor girl?" "It should have been seen to a month ago," returned my friend, with an air as though he should say "She has bided her time, she must now wait mine." Alas, poor jaw!—but the dentist and I extracted two promising roots of *A. adiantum-nigrum*, and I only hope that he managed the tooth as dexterously.

Returning to our cottage by the fields and river, I came on an upland bog covered by huge *Osundas*, and near at hand were some monstrous plants of *Athyrium Filix-femina*—some purple-stemmed, some white; they were nearly, if not quite, 4 feet high; I believe the variety to be that of *davallioides*. A little further on I found purple-stemmed *A. Filix-femina rhatium*, and, still further, a large *Pteris aquilina* very much forked. One of the great characteristics of the Dartmoor Ferns is this tendency to fork. I have found nearly all of the Ferns of the moor forked; *Filix-mas*, *Filix-femina*, *Blechnum spicant*, *Asplenium trichomanes*, *Asplenium adiantum-nigrum*; the *Lastrea dilatata* and *L. oreopteris* are exceptions. During a fortnight's hunt, I only found two plants of *Polystichum angulare*, and not one of *Polystichum aculeatum*. One of the two plants is the usual form, the other is, I believe, the variety *alatum*, the very small pinnules being joined to the rachis by a decided wing; but the plant is yet very small, so that I fear to speak with decision.—FERN-HUNTRUSS.

P.S.—Since the above was written, there has been found in a sequestered part of Becky Fall, or rather in its neighbourhood, a clump of *Polypodium phegopteris*.

## NOTES ON GRAPES.

I SEE in the *Gardeners' Chronicle*, of October 7th, a person is advised to plant the *Barbarossa* in a house where *Black Hamburg* and *West's St. Peter's Grapes* are grown, as it does not require so much heat as a *Muscate*. I think it is impossible to give worse advice than this, for if any Grape requires strong heat it is the *Barbarossa*. However good-looking and well-coloured it may be, it is seldom high-flavoured, because it hardly ever receives enough heat. At Sir Edward Walker's, of Mansfield, where it is grown with more heat than is generally given to *Muscates*, I found it the best flavoured *Black Grape* in the house, and it was compared with *Black Hamburg*, *Lady Downe's*, and *Black Alicante*; and, let me add, this is the only place at which I have found it of first-rate excellence. Nothing is more disappointing than a badly-selected lot of Vines, and I would caution any one against planting *Barbarossa*, *Black Alicante*, or even *Lady Downe's*, if he is not prepared to give sufficient heat to ripen *Muscates* in the same house. If I were planting a late vinery, these three and *Muscate of Alexandria* are all I should select, as *West's St. Peter's* is generally inferior in flavour.

I am more than ever pleased with *Muscate Hamburg*, when grafted on the *Black Hamburg*, as an early Grape. With me it fruits as freely, and colours as well as the *Black Hamburg*. To try if it would ripen in a cold house, one was planted in the large orchard-house, which is 90 feet by 30 feet, and has no artificial heat. Though planted late in spring it has reached the top, and a bunch only 4 feet from the ground ripened perfectly, though a good deal shaded by the Peach trees. I have now no doubt that it will require no more heat than a *Black Hamburg*, and I know that it will sell for one-half more money in the market. *Trentham Black* has again proved better and earlier than *Black Hamburg* in the same cold house, so we have three first-rate *Black Grapes*, which will ripen with little or no artificial heat.

*Duchess of Buccleuch Grape* has proved with me in every respect superior to *Chasselas Musqué*, richer in flavour; and



with both larger bunches and better berries, it ought to supersede the latter variety, for it has less tendency to crack and shank, though not free from these faults. It is not large enough for a market Grape, but will be valued by those who estimate flavour rather than appearance. Napoleon is in every respect inferior to Royal Muscadine, of which it is a variety. Foster's White, which also resembles Royal Muscadine, is superior to its parent in size and appearance, but is hardly its equal in flavour. Of Royal Vineyard, I have formed a very unfavourable opinion, a white Muscat in appearance, without any Muscat flavour, it appears a very bad setter; if it has any good qualities time will develop them.—J. R. PEARSON, *Chilwell*.

### ROSES FOR EXHIBITION.

"J. C.," of Atherstone, asks, "Which are the best twelve Roses to grow for Exhibition; also, the best twenty-four for that purpose?" As "J. C." does not say anything about the families of Roses, or whether he objects to summer and Tea Roses, I shall confine my recommendations to autumnal Roses, of the families of Hybrid Perpetuals, Bourbons, and Tea-Noisettes. I may say, however, that if summer Roses are not objected to, the very best show Roses among them are Paul Ricant and Charles Lawson. If Tea Roses are not objected to, Devonensis, Madame Willermoz, Souvenir d'Elise, and Souvenir d'un Ami are the very best; and Sombreuil as a white Rose, is hardy, most excellent, and never suffers from fungus.

It is an invidious task to select twelve or twenty-four Roses, and say these are the best. There are admirable Roses which I cannot generally recommend, and I must leave them out. I am bound to suppose that "J. C." wishes garden Roses and show Roses combined in one; and, above all, that he wishes Roses of good constitution and good general attributes. Moreover, I presume that he wishes Roses, whether twelve or twenty-four, to be varied in colour. This being so, I will endeavour to help him; and, as far as I can, I will put them alternately, light and dark, or by a fair contrast.

- |  |   |
|--|---|
| 1. Charles Lefebvre, darkish crimson.                  | 7. Pierre Notting, claret crimson.                          |
| 2. Souvenir de la Malmaison, flesh blush.              | 8. La Ville de St. Denis, pure rose.                        |
| 3. Senateur Veisse, vivid crimson.                     | 9. Madame Victor Verdier, vermillion rose.                  |
| 4. Gloire de Dijon, orange yellow.                     | 10. Cecile Chabillant, pink, and silvery reverse of petals. |
| 5. Prince Camille de Rohan, velvety black crimson.     | 11. Maurice Bernardin, vermillion.                          |
| 6. Sœur des Anges, white, with a delicate peach tinge. | 12. Triomphe de Rennes, yellow.                             |

If "J. C." can grow these well, and they are very easy to grow, the sooner his fellow competitors take up their bed and walk, the sooner they will be in a position to respect themselves.

I have now to add twelve more, alternately light and dark. As I ended with light, I will begin with dark.

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|---|---|
| 13. Duc de Cazes, dark purple crimson.            | 19. Celine Forestier, yellow.   |
| 14. Duchesse d'Orleans, lavender blush, roseated. | 20. Madame Boutin, rich crimson.  |
| 15. Jules Margottin, bright light cerise.         | 21. Caroline de Sansal, flesh blush.  |
| 16. Duc de Rohan, light vermillion red.           | 22. Madame Moreau, lustrous red; a splendid novelty of 1855.                        |
| 17. Aedalis, white.                               | 23. Madame Boll, pure rose; or John Hopper. The latter has the better constitution. |
| 18. Marechal Vaillant, bright crimson.            | 24. Baron Gonella, dove-pink, distinct.   |

I add these as surplusage, they are excellent and good—William Griffiths, salmon rose; Alfred de Rougemont, deep purple or violet crimson; Madame Julie Daran, vermillion; Baronne Prevost, rose; Solfaterre, yellow; Souvenir de la Reine d'Angleterre, rose; Monsieur de Montigny, reddish rose; Madame Knorr, bright rosy blush; Victor Verdier, rosy flesh; Madame C. Crapelet, rosy crimson; and Lord Macanlay, rich dark crimson.

The whole of the above Roses are admirable here all the season round. Mr. John Keynes cannot select for "J. C." another such lot, either with or without alternations of colour (that have constitutions), out of the existing proven Roses. The descriptions given in the catalogues are truthful. I have only put in three new Roses—viz., Pierre Notting, Madame Victor Verdier, and Madame Moreau, they will be found to be admirable.—W. F. RADCLIFFE, *Tarrant Rushton*.

RESULTS OF THE SEASON.—As letters from correspondents have appeared in the Journal commenting on the fact of Pear trees being now in bloom for the second time this year, it may not be deemed out of place to mention that a Pear tree in the garden of a house in the Camberwell New Road blooms a

second time every year, the period of the second bloom being in June. Raspberry canes of this year's growth are blooming, and fruit-forming, in my garden.—M. S., *Brixton*.

### GROUND VINERIES.

The following extract from a note recently received from a friend at Southampton may be of interest to some of your readers:—"Two years ago I saw your ground or curate's vineries at Sawbridgeworth, and immediately on returning home I established a Vine on this principle of culture. I find I can grow better Grapes in this ground vinery than in a hothouse adjoining; and the success of it has been so great that I intend giving up a considerable portion of garden ground to such vineries."

Allow me also to correct that part of my communication in page 269 respecting these structures, in which I said that the sixty-three bunches of Black Hamburgh Grapes in a vinery 14 feet long would average half a pound each. I find, on gathering them, that many bunches weighed 1 lb. each, and that they would average three quarters of a pound each; thus in round numbers, say sixty bunches, I have had from a vinery occupying but a very small space 45 lbs. of Grapes quite ripe, but not of a good colour. I must, however, add that the crop was far too heavy for the Vine, and the result of oversight, as half the quantity would have been enough for the future well-doing of the Vine.—T. R.

### TWO CROPS OF PEARS GROWING AT ONCE ON THE SAME TREE.

In your Journal of October 17th, I observe some curious instances of Pear trees flowering at this late season of the year. It may, perhaps, be interesting to some of your readers to learn, that there is a Pear tree in the gardens here, which flowered at the usual time, and set a beautiful crop of fruit, and it again flowered about the end of June, most of the blossoms setting; it had thus, as it were, two crops at one time in different stages of growth.

The variety being the Autumn Bergamot, the first crop was ripe in the last week in September, and proved excellent. The produce of the second flowering was gathered a day or two ago, and were quite hard when gathered, and in size and appearance very unlike the fruit of the first gathering.—THOS. PROSSER, *The Gardens, Longford House, Gloucester*.

### POTTING CHEILANTHES ODORA—EFFECTS OF HOT SUMMERS.

WILL you inform me when I ought to repot *Cheilanthes odora*? I brought it from Italy with me last spring, and potted it at the end of April. It now seems at rest, but has made very little, if any, growth during the summer.

It may interest your readers, perhaps, to be told that I have had this month some fine, well-ripened bunches of the Black Hamburgh Grape, from a Vine planted against the east wall of my house, without any artificial protection or heat whatever. The great warmth of the autumn has produced several most unusual growths. I have picked Lilacs, Laburnums, flowers of Dogwood, wild Roses, Apple and Pear blossoms, and many other shrubs and plants, which have put forth a second bloom.—HENRY BURNEY, *Warendon Rectory, Woburn*.

[The soil being sweet, and the drainage of the pot good, the plant need not be potted until March; but if the soil be at all saturated or sour the sooner it is potted the better. Be very careful not to injure the roots. It will not grow to any extent during the winter unless the house be warm, and warmth at that season is one of the greatest drawbacks to its cultivation. During the winter keep cool, just free from frost, airy, and just moist at the root.]

INTERNATIONAL HORTICULTURAL EXHIBITION AND CONGRESS.—We hear that this will commence on the 22nd of next May, and conclude on the 25th.

THE NEILL PRIZE.—The late Dr. Neill, of Edinburgh, at his death left the sum of £500 in trust of the Council of the Caledonian Horticultural Society, the interest of which was to be given once in three years to some one in Scotland who had



advanced any branch of natural science, including botany, vegetable physiology, horticulture, &c. The first was presented to Mr. McNab, of the Botanic Garden at Edinburgh, and we are happy to announce that this year the prize has been most properly conferred on Mr. Win. Thomson, gardener to his Grace the Duke of Buccleuch at Dalkeith.

#### PLANTS FOR TABLE DECORATION IN WINTER.

Would you let me know the names of about two dozen hard-wooded flowering plants, greenhouse or stove, to come in flower from September to Christmas? I have no accommodation for forcing, so they must bloom naturally.—G. C.

[It is no easy matter to give a list of highly ornamental plants flowering in November and December, in an ordinary greenhouse, but by preparation during the summer much may be done. Early plants of *Cineraria* may be brought into flower then, as also may *Primula sinensis*; and *Coronilla glauca* will assist in its particular colour; while all the winter-flowering Heaths, as *Erica hyemalis*, *Wilmoreana*, *rubra-calyx*, and others may be brought into use. *Chrysanthemums*, we expect,

you will already have. *Salvia splendens* makes, perhaps, the finest autumn-flowering plant we have; *S. fulgens* is also good, while, perhaps, some late-flowered *Calceolarias* may be taken up from the open ground. *Plumbago capensis* often blooms late; and *Tricyrtis hirta* should not be forgotten, its beautifully pencilled flowers give it a pleasing appearance. *Cyclamens* likewise come in at this season, and if a little heat could be given, *Epiphyllum truncatum* and its varieties form useful additions to the display at this season. Much also may be done by introducing fine-foliaged plants or those ornamental by their fruit. *Skimmia japonica* is a useful plant, and so is *Solanum capsicastrum* and other species. In plants with ornamental foliage, there are several Ferns and Lycopods, *Isolepis gracilis*, *Sedum californicum*, *Centaureas*, and New Zealand *Veronicas* alike useful as flowering plants and for foliage. The variegated forms of Japanese *Euonymus* are useful plants, as well as *Eurybia*. Many of the above will do for dinner-table decoration as well; but we expect an article on this subject shortly, which will comprise various stove plants, and others not enumerated in your list, which, as will be seen, is confined to greenhouse plants.]

#### THE MODERN PEACH-PRUNER.—No. 17.

CLOSE PRUNING BY ALTERNATE SHOOTS.

It is probable that the severity of the original form of close pruning the Peach in the open air, has presented some obstacle to its general adoption—at least, in this country; and it must be allowed that what is suitable for trees luxuriating in the brilliant sunshine of France, and comparatively uninjured by the adverse influences of damp and fog, cannot, without the necessary modifications suggested by personal experience, be expected at once to secure popularity here. To obtain public

confidence it is necessary that any new system practised abroad under such different conditions, should also successfully pass through the test of a fair trial at home. Its merits can then be proved, and reported on, and the general public, having neither time nor inclination to examine for itself, can securely receive this report on the good faith of those who are able and willing to attempt it. It is not always, it is true, that the time, the labour, and the money spent in such trials are repaid,



Fig. 18.

but in any case the public is the gainer. In examining, then, the merits of the original system of close pruning, it may not be out of place again to repeat, that at least ten seasons were devoted to giving it a fair trial, and to modifying it. During this period it was taught by me to others, who largely adopted it, and whose gardens and orchard-houses (in some cases of no small importance) sufficiently attest to the completeness and success of the method.

In considering the original system, we notice, at the outset, that the first growth of the year is stopped, in the ordinary run of shoots, at two full-sized leaves. The result always is, that the buds in the axils of these two leaves burst into a rapid second growth, which is as suddenly closely suppressed, and it follows that all the fruit-buds, and also the few intermingled wood-buds, are formed at the point of junction of these two growths.

Though valuable groups are thus produced, which, in the

dry, sunny, and manageable climate of the orchard-house are just what we require, still it may fairly be questioned whether the general vigour and necessary progress of the entire tree may not be prejudiced by this restraint placed on them. In a semi-tropical sunshine, with a dry and ripening autumn, and planted in a rich soil, Peach trees would certainly thrive under this very close treatment; but in our uncertain, damp, and comparatively sunless atmosphere, the balance between the roots and leaves might become unequal. It must not, also, be forgotten, that one chief aim of M. Grin's system is to produce those two-year-old clusters (class 5), which are known to bear the finest fruit. When, therefore, several of these valuable groups are formed at the base of the spur, the upper growths become of secondary importance. This is essentially orchard-house pruning, but it does not admit of that scope and largeness of treatment which is required for open-air work, especially in England.

For similar reasons, after many experiments, I think that pruning to three leaves as soon as six are formed (which style I advocated in "Cordon Training," published five years ago), although an admirable system for trees under glass, is not, on the whole, sufficiently long to meet all the accidents and risks that the Peach has to undergo.

Pruning to six or eight leaves, provided care was taken to insure the early formation of the fruit-buds on the lowest portions of the shoot, by cutting back below the point of the first stopping in time, as described in No. 15, is a valuable system for some localities; forerights to be closely pinched in, and short spurs preserved. This is a mixed system; but I have now no doubt that the safest, the most profitable, and the simplest way is to make the first summer-stopping of the shoots at four leaves, as soon as at least six full-sized leaves are developed. These four good leaves will each have a bud or buds in their axils, and there is now length enough in this shoot to satisfy any pruner; for if these four buds are not to bear, where does the long-pruner expect his fruit to be? And if they are to bear, what need is there of more growth beyond them than is sufficient, as in the Vine, to nourish the fruit?

The first stopping of the shoots, then, is at four full-sized leaves. The smaller leaves at the base, having no buds now in their axils, do not count. Of the four leaves left, some of the upper buds will burst into second growths, and the lower ones will be constituted. These shoots not being tied in, we may suppose that one or two of the upper-buds will thus burst. If the shoot be on the under side of the branch, or on the upper side and tied in, only the point-bud will burst. As soon as the second growth has made four leaves, it should be reduced to two. If, by the time this second stopping to two leaves takes place, the lowest buds on the shoot, having had most of the sap, appear full, prominent, and formed (which one or two seasons' experience will enable any one to be a judge of), then let the third growth be reduced to one leaf as soon as two appear, and any

further autumnal growth may be allowed to make several more inches, according as it is desired to strengthen the tree, after any casualty. If, on the other hand, at the time of regulating the second growth the pruner's experience shall have taught him that the lower buds are not progressing well, then let him cut below the point of junction of the first and of the second growths. The object is to concentrate anew the summer sap at the lower buds, so as to develop them, without causing them absolutely to burst. This is almost sure to succeed. Should, however, the buds not become formed, then the pruner would be justified in cutting right down to the lower two buds, because the shoot is of little value, and the worst that could then happen would be to cause the bud to break, and the shoot would then have to be cut in very closely at the winter pruning.

We suppose that the two upper buds burst. In this case the buds at the junction, and those on the second growth, are very valuable. In the orchard-house these are certain fruit-bearers, and out of doors they may also be generally relied on, being formed so early in the season. If only the extreme or point-bud burst, then the lower three will give ample chances of fruit. In any case we have both the junction-buds and the ordinary triple groups of long pruning to depend on, thus uniting every chance.

There should always be at least two shoots on each spur. The object is to prune them alternately, as fruit and wood bearers. One of these, the most promising, is left long to bear. It is cut above the junction-buds, because, as a rule, we must not cut too near to the group which is to bear, and at the junction are several wood-buds. The other shoot on the spur is cut rather closely in, but not so as to sacrifice some well-placed groups. It is cut, however, quite near to the point whence the new succession shoots are to appear.

In time a certain number of shoots will spring from each spur. Of these we leave the best long to bear, and the others are cut in closely for succession wood. Of the bearing shoots

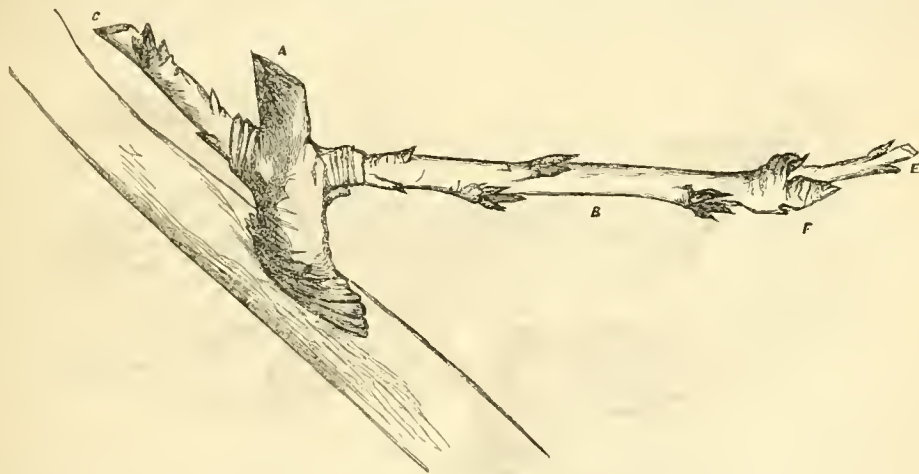


Fig. 19.

—say two, one is left longer than the other, and, if desired, tied in. This is to economise the wall. One shoot having two or three good buds is really enough in practice to secure succession shoots. In the orchard-house we preserve all we can. In the open air forerights are preferably removed at the winter pruning, but there need be few, because such shoots as show this disposition could be very closely stopped to two leaves, and so become short spurs.

Young trees under this system, should only have their first year's shoots equalised at 6 or 8 inches. At the first winter's pruning these shoots should be cut in to two good eyes, thus forming a short shoot, which eventually becomes the spur. The next summer each of these two buds puts forth a shoot, which is then ready to be manipulated to four leaves, to two, and to one leaf.

Beyond equalising the branches, and directing them into the proposed shape, no further shortening of the branches takes place. Blank spaces are filled in by grafting by herbaceous approach, or by budding.

Under long pruning the leading branches were excessively shortened, thus throwing the shoots out into corresponding length. The modern style, on the contrary, allows the branches

to remain at full length, merely suppressing any rampant growth, and equalising all the parts, while the shoots are closely pruned to concentrate the sap instead of dispersing it. To closely prune the shoots, and, at the same time, reduce the length of the leading branches, would be to dwarf the tree; but to allow the growth to take place only where it is required, is evidently the natural way. Any form of tree flourishes when thus treated for it is a return to first principles.

Fig. 18 represents the system I have been describing. This is the autumn appearance of the two shoots springing from the central spur. In this figure it is easy to distinguish how the four leaves of the first summer stopping have fared. In either shoot only the point-bud has made a second growth, which has been stopped to two leaves, and a third growth, which has been stopped at one more leaf. The junction-buds (where the point-bud burst) appear full and healthy. One of them, in the right shoot, even shows a disposition to become a cluster-spur. This reveals to us the secret of the original theory. The small leaves at the base of either shoot are not counted in the four. This beautiful specimen was carefully drawn from nature, and is a perfect illustration of the theory advanced.

Fig. 19 represents the winter pruning of these shoots. A is



the original spur. B is the right shoot, which has been selected to bear (both shoots are, however, perfect) mainly on account of the presence of the good buds at the junction F. The second growth, E, has been left (this is optional here). The left shoot, C, is cut to the lowest group of triple buds; for the central bud of this group, being a good wood-bud, will give us a strong new shoot, which will be stopped at four leaves, and be kept to bear in its turn. At its base are reserve buds which may become cluster spurs, or put forth other succession shoots. Any of the three good groups left on the shoot, B, may bear the fruit. If the highest be selected, its central wood-bud should be stopped when it has made two leaves, there being abundance of leaves at the junction above it. The remaining groups, and, perhaps, the latent buds at the base will now extend, and afford the pruner ample scope for his skill. C is to bear the fruit now; therefore, B has to provide the succession wood. Besides this, however, it is proper to develop one shoot more on B, at least, so as to multiply the chance of fruit, and so that by the winter, the spur, A, shall have three or four shoots of various kinds found on it to select from.—T. C. BRÉHAUT, *Richmond House, Guernsey*.

## GOURD—JERUSALEM ARTICHOKE—CASTOR OIL PLANT.

Will you allow me to call your attention to the Portmanteau de Naples as a Vegetable Marrow? I fancy I can with propriety use that term. It has been in bearing for months. My gardener cut one weighing 28 lbs. this morning. I hang these Gourds in the kitchen, and have slices cut off as wanted. It forms a useful side dish in winter, and is excellent with roast meat.

I have a large patch of Jerusalem Artichokes in full bloom, many with eight flowers fully expanded. I cannot call to mind seeing them in bloom but once before, although I have been a gardener upwards of forty years. My Castor Oil plants this year are as tall as Chung.—F. DAVIES, *Captain 10th W. R. V., Pershore*.

## A PEEP AT THE WOODS IN ODD PLACES.

No. 2.

### ACER SACCHARINUM (SUGAR MAPLE).

Picture to yourself a beautifully wooded hill, with a silvery rivulet trickling around its base. It is a glorious day, the sun is shining brightly overhead, with its warm rays bringing miraculously into activity the slumbering powers of the vegetable creation. The sap is beginning to rise, buds to shoot, corn to spring up, and trees to foliate; all bespeaking the wonderful power which the sun possesses in Canada West, and forcibly reminding us that to the unchristianised mind of the Aztecs and ancient Mexicans both prior to and during the reign of Montezuma, their religion is not the unreasoning belief that some would have us think, but a beautiful conception in the weak mind of man of the eternity and omnipresence of a Supreme Being, whom the poor human understanding can in no wise comprehend. I refer to the worship of the sun. And now I will turn to the scenery in which the elegant and most valuable Sugar Maple (*Acer saccharinum*), rears its softly rounded, and delicately green foliage. The tree grows to the height of from 20 to 60 feet; the leaves are shaped somewhat like those of the common Maple, of a most delicate pale green in the spring and summer, becoming converted, as autumn draws on and stern winter heralds his advent, into yellows, varying in tone from pure gamboge to deep chrome, and reds, and scarlets, from the bright scarlet *Verbenia* to the dull heavy Indian red shown in the wing of the caged and pining Virginian nightingale. The bark is of a whitish brown colour, rather deeply fissured in the sap-bearing trees, something after the manner of the common Ash (*Fraxinus excelsior*), of our own country. It is brittle, and from between the bark and the young wood, or outer woody rings of the trunk, called by carpenters and mechanics the sap-wood, in contradistinction to the darker inner rings denominated the heart, flows, on piercing the bark, a clear sweet liquid, containing the sugar from which the tree acquires its name.

Having thus briefly described the tree and the position in which it is most commonly found—viz., upon hilly ground in the neighbourhood of water, I shall next proceed to give an

account of a sugar-boiling "bee." Lest any of my readers should not know the meaning of the word "bee," it is as well to state that when in any part of the northern states of America, or Canada, a large amount of work is required to be performed in a limited time, as the preparing of Apples for drying, husking corn, quilting, or raising a house, the person requiring aid notifies to all neighbours, near and far, that on a certain day he wishes their company, not to meet together in the evening as we do in this country, too often to talk over and scandalise our neighbours, but to go the whole day from early morning and devote their best energies to forward the welfare of the undertaking; and they well know that when evening shall have put an end to their labours, the cheerful glass and song, varied with dancing, will fully reward them for a day spent in hard work and helping a friend.

Perchance some of my fair readers may wish to have an insight into the *arcana* of my western hall and supper-room. I must beg of you to imagine the day's hard work completed, and the actors in the scene instead of being, to use our own phrase, quite tired out, only just primed for any amount of fun or dancing that can possibly come in their way. The building in which we are met is a stately one for that part of the country; the gentleman, if I may so apply the term, for whose good the "bee" was held, was in a superior position to the generality of those around him, and, therefore, the building—namely, the barn in which our gathering took place, was more roomy and better adapted to such an occasion than often happens. It was constructed of sawn timber regularly put together like the frame of an English boarded house, and planked outside so as to be a perfect shelter against inclemencies of weather. Of course, in Canada we consider a current of air which would extinguish a gas light as a mere zephyr, and not worthy of being noticed. But let us haste to the dance, where we can hardly say—

"We foot it fleetly as we go,  
On the light fantastic toe."

but what was missed in airiness and elegance was most fully compensated for in activity and perseverance, for we all followed in the steps of Goldsmith's village swains, who

"Simply sought renown,  
By holding out to tire each other down."

and I may boldly add, that the city belle who could dance down some of the company then present, would have been a lady possessed of no small amount of thews and muscles, and would require no surgeon's certificate to testify as to the soundness of her heart and lungs. But "tell it not in Gath;" here, even here, in the heart of a country in which it would be difficult, nay almost impossible, to find a hundred acres cleared from its virgin forest, the almost entire surface of which was twenty-five years ago bush land, that had hardly been trodden by the feet of white men, where the bear and the Indian, the moose and the deer, were the lords paramount, and held undisputed sway over the country—even here *Venus* and *Bacchus* hold court, and wield their sceptre over a numerous train of subjects; and it can hardly be expected but that at a meeting of young folks brought together for the purpose of fun and frolic, many worshippers of both goddess and god, would not be found: consequently love-making on the broadest basis was plentifully intermingled with libations to *Bacchus*, in the shape of whiskey, and the wreathing fumes of the calumet of peace of the red lords of the soil, or according to our host, who was of Irish extraction, a "shangh of the dudeen," *Anglice* a whiff of the pipe. This combination of dancing, love-making, whiskey, and tobacco, taken in rapid succession, soon brought matters to a conclusion; for, as in hunting the pace kills, *Morpheus* came to the aid of the previous god and goddess, and notified to the guests that it was time for retiring to their various homesteads; and between three and four in the morning the "bee" had ended, and none remained save a few single young men who stopped to complete the work commenced on the previous day.

Having previously mentioned the object of the "bee," I will now proceed to a description of the process of sugar-obtaining. A small tree, varying from 9 to 18 inches in diameter, of some hard wood, perhaps even a worn-out Maple, is cut down, and chopped into lengths of between 2 and 3 feet; these small logs are then split in two, and each half is rudely hollowed out by the axe into a small trough. One of these troughs is placed immediately below an incision made obliquely through the bark to where the sap flows; the object of this direction being chosen is that the liquid may run from the wound along a chip thrust into the cut, and thus drop into the trough. It is as well to mention,



that the sap flows most freely on warm, damp days; cold, even when accompanied with rain, checking at times almost entirely the ascent, and consequent flow of the juices. As each trough is filled it is emptied into a bucket, the well-known light American pail being that principally in use in Canada West.

These buckets, again, when full are carried by the collector to the boiling kettle, which is a large three-legged iron pot, suspended by a chain hanging from a cross-beam or gallows, which chain is attached to the handle, thus enabling it to be kept at sufficient height above a fire kept constantly burning under it. The whole of this process is carried on out of doors, and in the immediate neighbourhood of the trees whence the saccharine liquid is drawn. All the time the pot must be kept boiling and well stirred, that the evaporation of the aqueous portion may take place regularly, and to enable the sugar left behind to granulate, without which it would become a mere sweet lump, not presenting the appearance of sugar at all. After being boiled into thin molasses, it is strained, eggs are beaten up with the shells, and mixed with the cold syrup, which is again boiled to the necessary consistence, and then allowed to cool in vessels which form a kind of mould for it. These masses when set are pierced to allow any of the uncrystallised molasses to drain off, and when sufficiently drained are broken up, and put away for keeping. According to the cleanliness used in the different processes, and the art of the boiler, the sugar will vary in appearance from the very light and pleasant-looking crystalline substance known as fine West Indian coffee sugar, to the coarse, luscious, dark-coloured sugar exported in cases from the Brazils. The flavour of the finer kind, although unmistakably showing its source, is to many more agreeable than even the best specimens of West Indian sugar, and incomparably superior both in appearance and flavour to the high-dried, tasteless, and sandy-looking compound known as East Indian and Mauritius sugar. The finer qualities also have the advantage of keeping better, but the sugar made by the whites, especially by some of the neat housewives of Canada West, is so superior to that made by the Indians, as scarcely to be recognisable as an article bearing the same name. This sugar, on account of the labour required in making, is dearer than that imported to such places as lie within the reach of easy carriage, and is, therefore, seldom made except for household use, and in districts remote, and imperfectly provided with roads.

The Sugar Maple might with advantage be planted more plentifully in this country, being of quick growth for a hard wood, of great beauty, either singly or in clumps, and invaluable in ornamental grounds and small parks, both on account of the beauty of its shape, and the delicacy of its foliage. The changeableness of its hues according to the season, makes it a most pleasing object in the landscape. Neither heat, cold, nor moisture seems to affect this sturdy tree. Its timber is of great worth to the upholsterer and turner, being a clean, hard, and close-grained wood, easily worked, and not given to warping, capable of bearing a high polish, and, in fact, useful for all the purposes of neat, durable furniture.—A SURGEON.

#### CALCEOLARIA SANG'S AMBASSADOR.

Not having seen mention made in the pages of THE JOURNAL OF HORTICULTURE of this really excellent Calceolaria, I beg to draw attention to it, as a most decided acquisition to the list of bedding Calceolarias. It was sent out last spring by the Messrs. Sang, of Kirkecaldy, Fifeshire, and is known by the name of Sang's Ambassador. Another bearing the same name, but much inferior to it, is, I believe, in the trade.

In colour it is a rich crimson, with a strong glow of scarlet in it. In fact, at a short distance it has all the appearance of being a scarlet, a colour quite new in the Calceolaria, and the want of which has long been felt.

A circular bed of it here (Whittingham Gardens, Haddingtonshire) edged with a dwarf-growing yellow Calceolaria (canariensis) has, throughout the season, obtained general admiration, being when viewed at a short distance, and with the sun shining on it, quite dazzling, so much so, that it was with difficulty that the eye could rest upon it.

Another powerful recommendation is, that it seems to defy all sorts of weather, having stood the heavy and continuous rains of August better than any of the many Calceolarias used here. This, however, may be partly attributed to its being thinly planted, being from 15 to 18 inches apart. Thin planting is almost indispensable, in order to insure success. It is

of compact growth, throwing up immense trusses of flowers, which are all the better of being slightly staked, or supported in some other way. Flowering so profusely, it cannot be expected to produce many cuttings. A good plan, therefore, is to plant out a few plants in some shady situation, and then by pinching out the flower-stems as they appear, and thus encouraging growth, an abundant supply of healthy, tender cuttings may be obtained in autumn. Such plants, being lifted and potted in a light soil, and placed in a cool airy house during winter, will produce a large number of cuttings for spring propagation.—J. ADAMSON.

#### NEW BOOK.

*The Orchard-House.* By T. RIVERS. London: Longmans & Co.

THE twelfth edition of this useful and excellent little volume has just been published. The following is one of the additions it contains:—

"I have, however, gathered an idea with regard to compost, which may be useful to amateurs, and which the experience of the present season (1865) seems to confirm. In other words, I have for some time suspected that which I now know—viz., the necessity of calcareous matter in all composts used in the cultivation of stone-fruits. Many orchard-house amateurs have for several seasons felt surprise at the robust healthy appearance of the Aprioret trees cultivated here in pots, and their extreme fertility. I had been so accustomed to perfect success in their culture that I felt no surprise, thinking it a matter of course, and scarcely crediting accounts I heard of their failure with some cultivators.

"At last my attention was aroused, and I was induced to look into my soils, more particularly the loam used in potting fruit trees. This I found to be, like all the soils in this district, full of finely comminuted chalk; and to this large preponderance in our sands and loams, amounting in the former to 25 per cent., I fully believe I owe a portion of the great success which attends the cultivation of orchard-house fruits here.

"The question is, can this calcareous nature be given to composts used in the cultivation of fruit trees in pots, or in prepared borders? I believe it may, and with but little difficulty. It is merely procuring chalk from the districts where it exists. It is very cheap, a truck-load being easily dug and placed on the rail. This will, of course, be sent in lumps; all the preparation it requires is being reduced to powder, and half a peck of it mixed with a bushel of compost thought to require it. Or if we say, mix two bushels of powdered chalk to a one-horse load (twenty bushels) of compost, it will be near enough.

"I believe this addition of chalk to composts not calcareous, and to loams of an iron nature, to be quite necessary in the culture of stone fruits; and if not necessary, still most beneficial to all kinds of fruit trees.

"The fine Cherries on pyramids, in pots, grafted on the Cerasus Mahaleb, now cultivated here, and the great success of Plum culture, are owing to the calcareous soil; so that I earnestly recommend chalk to be used in cases where it is at all comestable."

#### ENTOMOLOGICAL SOCIETY'S MEETING.

THE October Meeting of this Society was presided over by F. Paseoe, Esq., the President, and afforded much interesting matter for study. Amongst the donations to the library received since the last meeting were the publications of the Royal and Royal Agricultural Societies. And a new part of the "Transactions" of the Entomological Society of New South Wales, in which the death of the eminent naturalist, W. S. Macleay, Esq., President of the Society, was announced. The death of Dr. Schaum, of Berlin, one of the honorary members of the Entomological Society of London, was announced by Mr. MacLachlan.

Mr. Kirby exhibited a specimen of the rare Moth, *Sterrhia saccharia*, taken near Brighton, in July; and Mr. Stevens a fine series of Butterflies, collected at Labuan, in Borneo, by Lieut. De Crespigny.

Mr. Jenner Weir exhibited specimens of the rare Moth, *Xylina petrificata*, one of which resembled *X. semibrunnea* in colour. He also stated that he had observed that the lesser Earwig employed the pair of forceps at the extremity of the body in closing its wings after flight.

Mr. MacLachlan exhibited several species of Phryganidae taken in ice caverns of the Swiss Alps, by the Rev. J. F. Brown. He also read descriptions of a new British species, and of various species of the same family taken in the Malayan Archipelago, by Mr. Wallace.

Mr. Evans exhibited two deformed specimens of the *Vanessa Atalanta*; and Mr. W. W. Saunders the pseudo-bulb of an Orchid, from New Granada, entirely destroyed by vast numbers of specimens of two distinct species of limpet-scale insects (*Coccidæ*). He observed that there appeared no fixed period of the year for the development of these insects, and he had never yet been able to discover a single male of either of the species in question.

Dr. Wallace exhibited a specimen of *Argynnis Lathonia*, captured at Colchester, by Mr. Harwood, at the end of the preceding month; also, an extensive series of living specimens, in all their different stages, of



the *Ailanthus Silkworm* and its moth (*Bombyx Cynthia*), which he had succeeded in cultivating at Colchester in the open air, showing satisfactorily that this species might, with a moderate amount of care, become a new article of commerce in this country. He had obtained a grant of a portion of a railway embankment for a plantation of the *Ailanthus* trees, which will grow in the poorest soil. It was of importance that the eggs should be hatched upon the leaves of growing trees, as the young larvae did not thrive well on gathered leaves, a circumstance completely contrary to the habits of the common Silkworm. The moths hatch from the cocoons at a temperature of 70°, and he had procured two broods during the present season.

Mr. W. W. Saunders made some observations on the comparative value of the *Ailanthus*, contrary to the statements of M. Guérin Ménéville in its favour.

Mr. S. Scudder, Secretary of the Natural History Society of Boston, U.S.A., also made some observations on the cultivation of silk from the *Bombyx Polyphemus*, in North America, the cocoons of which very nearly resemble those of the *Ailanthus* Moth. He also exhibited a remarkable fossil insect, allied to the genus *Ephemera*, and which must have measured as much as 5 inches across the expanded wings, which had been found by Mr. Hart in the Devonian Rocks of New Brunswick.

Mr. Sydney Saunders exhibited a fine series of specimens of the Bee parasite, *Hylelethrus Rubi*, in different stages of growth, found by him at Corfu; and Mr. T. Bond several very beautifully preserved specimens of the caterpillars of British Moths.

A paper by Mr. F. Walker, containing the description of a new exotic genus of Chalcididae, was read; also, the continuation of a memoir by Mr. C. Wilson, of Adelaide (South Australia), on the Buprestidae of Australia, of which beautiful family he believed there were not fewer than 800 native species, 350 of which inhabited southern Australia, a fine work by M. Henri Deyrolle, upon the species of the same family, collected in the Malayau Archipelago, by Mr. Wallace, was also exhibited.

An interesting conversation took place on the various peculiarities which had been observed in the development of insect life during the two last unprecedentedly dry and hot seasons.

## RECENTLY-DISCOVERED PHOSPHATIC DEPOSITS IN NORTH WALES.

BY DR. VOELCKER.

(Read at the Meeting of the British Association at Birmingham.)

THE discovery of new supplies of phosphatic materials, it is scarcely necessary for me to say, is of the highest importance to the English agriculturist, who, in the shape of superphosphate and similar artificial manures, consumes annually many thousands of tons of phosphatic fertilisers, the demand for which is yearly increasing, not only in this country, but on the continent and in the colonies. Under these circumstances it is fortunate that from time to time fresh mineral deposits are discovered, and others are made available for manufacturing purposes, which previously were known only as objects of interest to the geologist or mineralogist.

Those engaged in the manufacture of artificial manures, or of phosphorus, are well acquainted with the fact that bones, South American bone-ash, Cambridgeshire and Suffolk coprolites, apatite from Canada, phosphorite from Spain, Sombrero rock-guano, phosphatic guanos from the South Pacific Ocean, and other varieties of mineral phosphates, find a ready sale, and are largely consumed by manufacturers of manures in this country.

Apprehension has, indeed, been expressed that with the yearly increasing demand for phosphatic manures the supply for the raw materials could not keep pace. Such apprehensions, however, appear to me to have no foundation, for new sources of mineral phosphates are rendered practically available at the present time, and a very extensive mine has recently been discovered in North Wales. This mine contains, besides copper and iron pyrites, two phosphatic minerals, both of which are of considerable importance to the English agriculturist. One of them is a phosphatic limestone, the other a black shale, largely impregnated with phosphate of lime.

These minerals were discovered recently by Mr. Hope Jones, of Hooton, Cheshire, whilst he was searching for other minerals in the neighbourhood of a place called Cwmgynen, about twenty miles west of Oswestry. The phosphate deposits occur not far from the clay slate and lead-bearing districts of Llangynog. The rocks are Silurian, of the Llandilo series, and a large fault south of the vein and parallel to it brings in the Denbighshire grits. Cross faults north and south also occur, which are highly metalliferous, containing ores of copper, lead, manganese, &c. The strata (slaty shale) contains several beds of contemporaneous felspathic ash and scoria; and the

usual fossils of the Llandilo series are found, but not in great numbers.

Mr. Hope Jones has traced the phosphatic beds a long distance, and informs me that they are continuous for about two miles. I have myself visited the phosphatic mine at Cwmgynen, and on that occasion collected various specimens of limestone and black phosphatic shales, to the composition of which I shall presently refer.

The black phosphatic slate or band is fully 18 inches thick, and the limestone bed from 8 feet 6 inches to 9 feet. The vein which separates the two deposits from each other is 14 to 16 inches wide, and filled partially with white pipeclay, calcareous spar, and copper and iron pyrites. The deposits are readily approached by a horizontal passage which has been driven into the vertical beds of phosphatic minerals. The high level is only 76 feet long, and close to the summit of the hill. The average depth from the summit level to the drainage level is about 500 feet, and the distance here to the phosphatic deposits about 100 yards.

At present the mine is approached only by the summit level; but experience having shown that the black band widens as the depth gets lower, operations have been begun at Cwmgynen to drive a horizontal passage into the hill at a depth of about 200 feet below the upper level, which passage is now being driven with as much rapidity as is possible, and will probably be completed in about three months, when a large supply of the phosphatic deposit will be obtainable.

The bed of black shale is 18 inches in thickness. This shale contains variable quantities of phosphoric acid. Towards the summit of the hill it is not nearly so rich in phosphate of lime as at a lower depth. Thus, in specimen No. 3, taken from a higher level, I find only 24.07 of phosphoric acid, equivalent to 48½ per cent. of tribasic phosphate of lime; while in another sample, taken at a lower level, I find as much as 29.67 of phosphoric acid, which is equivalent to 64.16 per cent. of phosphate of lime.

The mine of Cwmgynen, as worked at present, produces specimens containing from 54 to 66 per cent. of phosphate of lime. Blocks weighing above 1 cwt., I am informed, are now worked out, which resemble intimately the specimen in which I find 64 per cent. of phosphate of lime.

The black band contains no carbonate of lime, little magnesia, some fluoride of calcium, alumina, and oxide of iron, soluble in dilute acids, and, more or less, iron pyrites. In some specimens I find much less sulphur than in others. The highest per-centage of sulphur amounts to 7.02, equivalent to about 13½ per cent. of iron pyrites. The more compact masses, found at a greater depth from the surface, contain less iron pyrites than the deposit nearer to the surface. The occurrence of graphite in this phosphatic shale is also peculiar.

Lastly, we have to take a glance at the composition of the black limestone beds. The darker-coloured varieties contain more graphite, and are richer in phosphate of lime than the lighter-coloured specimens. In the latter I find only from 10 to 20 per cent. of phosphate of lime; in the darker varieties from 30 to 35 per cent. The beds contain a good deal of carbonate of magnesia (5 to 8 per cent.). On burning, they furnish a lime which is very valuable for agricultural purposes; for the farmer who applies this lime to his land not only supplies it with lime—a constituent required by every description of agricultural produce—but also with the still more important mineral constituent of plants—phosphoric acid. It is scarcely necessary to observe that it is chiefly the phosphoric acid in bones which renders the latter so valuable as a fertiliser; nor need I specially dwell on the fact that the application of this newly-discovered phosphate of lime is, in point of fact, almost equivalent to liming and boning in one operation.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE recent heavy rains have somewhat impeded spade-operations. The necessity of an examination of all drains and water-courses will be readily suggested by the now frequent recurrence of wet weather. In the course of time weeds and rubbish accumulate in quantities sufficient to impair the efficiency of the common water-conduits, and every facility should be given at this season for the passage of the water from the garden. Beans, in soils favourable to vegetation during winter a few Mazagans may be planted, either where they are to remain or on a sheltered border, for planting out early in the



ensuing year. *Cabbages*, vacancies in the main plantation should be filled up immediately. Employ lime or soot about young Cabbage and Lettuce plants. *Cauliflowers*, those in the frame and under hand-glasses should be divested of their dead leaves, and if any vacancies occur they should be filled up; give air freely every fine day. *Celery*, continue to earth up; if severe frost should set in, some long litter to be laid over the most forward crops. *Cucumbers*, a little discretion is necessary to be observed as to the quantity of fruit a plant is capable of swelling off at one time, winter-fruited plants are frequently injured by overbearing, one fruit is sufficient for a plant to swell off at this season, but there may be several fruit in different stages of growth. *Endive*, when quite dry a good quantity should be tied up for blanching, a quantity of it could then be laid in, in pits or frames, before severe weather set in. *Jerusalem Artichokes* may now be taken up, or this may be done as they are wanted for use, but then the ground should be covered with litter during severe frost, to lessen the trouble of digging them up. *Onions*, the autumn-sown to be hand-weeded, and the ground slightly hoed between them. *Peas*, in very favourable soils and situations the first sowing may now be made, but we cannot recommend it where there is the convenience of pits and frames. *Shallots* and *Garlic* may now be planted in light and dry soils, otherwise they had better not be planted until February. The work of storing away esculent roots should now be carefully attended to, as on this being properly performed depends the whole success of their keeping.

#### FRUIT GARDEN.

The planting of fruit trees, either in the open quarters or against walls, may be commenced at once, supposing the borders to have been sufficiently prepared for their reception. In planting trees between old-established ones against walls, a hole of considerable size should be made for the young trees, and filled with fresh compost. In preparing new soil for planting fruit trees endeavour to keep it as dry as possible, and choose a dry day for planting, that the soil may be favourable to the growth of fresh roots. The present time is also the most favourable for lifting and root-pruning such trees as are too luxuriant, and require checking to induce a fruitful habit. We prefer lifting the trees entirely, unless they are very large, to cutting off the roots as they stand. After shortening the roots proportionably to the strength of the tree, spread them out near the surface and fill in with compost, on which a mulching of half-rotten dung should be spread, to prevent frost from entering the ground. But while the above is often necessary with existing trees planted in too rich or too deep borders, it should be borne in mind that it is only a palliative measure, and, in the course of a few years, will require repeating, unless measures are at the same time taken to make the borders shallower or poorer as the case may be. We are of opinion that most wall trees would be more fruitful were their roots confined to borders of very limited extent compared to what is generally the case, and by which the balance between the roots and branches could be adjusted without the trouble and expense of lifting and root-pruning. Clear off the remaining leaves from wall trees, to give the wood the advantage of sun and air to assist its ripening.

#### FLOWER GARDEN.

The frost has in many localities been sufficiently severe to destroy all remains of beauty in the flower garden. When this is the case the beds should be immediately cleared of Geraniums, and such other plants as are killed. Dahlias should be taken up the first dry day after the tops are cut off, as they will not in the slightest degree be benefited by remaining in the ground any longer. It is no unusual thing that in the hurry and bustle of autumn operations many things are forgotten that are really essential. Such being the case, we shall just mention a few matters which should not be forgotten. Do not be niggardly in planting out a good stock of spring flowers, especially if a gay spring garden is required. Abundance of early Tulips and Crocuses in variety should be planted now. Do not forget hardy Cyclamens, these planted near the edges of borders will have a fine effect. Hepaticas, too, should be remembered; the colours red, white, and blue, form a pleasing variety, and when they are well established they flower most abundantly. Snowdrops, Winter Aconites, and Dog's-tooth Violets play an important part in early spring, the bloom of these come almost through the snow, reminding us that spring is returning. Standard Roses should be gone over, and all the long shoots shortened considerably. Ornamental climbers on trellises, arcades, &c., in blossom should have protection. Half-hardy plants and shrubs will likewise require some protection on

frosty nights. Continuous and heavy rain during the week has prevented much work being done in the flower garden. Especial care must be taken of the Auricula-frame to prevent drip. If the glazing is not perfect it must be made so. The plants should be exposed to a south-eastern aspect, and have very little water; once a-week will be ample. Every precaution must be taken against damp, a free circulation of air at this season being absolutely indispensable. Tulip-beds must be made up at the first opportunity, and as soon as the soil is dry, plant.

#### GREENHOUSE AND CONSERVATORY.

The period has now arrived when the increasing scarcity of flowers outside should be compensated for by those conservatory plants peculiar to winter, and by retarded summer flowers. These together, will lead us imperceptibly up to the products of the forcing-pit, which form a distinct section, and, of course, require a separate course of treatment. The Camellias will form a most prominent object for the next five or six months. A very considerable amount of atmospheric moisture should be afforded them, drip, however, must by all means be avoided, and the syringe is out of all question. The Chrysanthemums must be treated with manure water constantly, and all suckers and waste shoots trimmed away. Plants of intermediate character require a little more warmth, with a permanency of atmospheric moisture. Such are *Euphorbia jaquiniaeflora*, *Gesnera zebrina*, *Achimenes picta*, *Gesnera oblongata*, *Linum trigynum*, *Plumbago rosea*, *Begonias*, &c., all of which should have a temperature of 60° secured by day, rising to 80° in sunshine, and sinking to 55° by night. The above are all most useful and interesting flowers for the dead of winter. Keep a sharp look-out for insects in every department, especially for thrips and fly on *Asclepias* and *Cinerarias*, and mildew on *Heaths*, and other greenhouse plants. Do not use fires in the greenhouse until you are obliged to do so, as it is of importance to keep the plants as hardy as possible.

#### PITS AND FRAMES.

Everything should be finally arranged here as soon as possible. See that Mignonette has a very light situation, and is plunged or placed near the glass, free from drip. Store *Verbenas* growing rapidly should have the tops pinched, as also *Petunias*, or other ordinary mass flowers. Give all the air possible, and give water sparingly. Leave air on all night, be it ever so little. If not already done, let straw shutters or whatever else it may be intended to use for covering for them, be put in readiness for use without delay. Straw shutters if well made are expensive in the first instance, but are considered by many to be the most efficient of any kind of covering in use, and taking into account the time they last, they are, perhaps, as cheap as any.—W. KEANE.

#### DOINGS OF THE LAST WEEK.

"NEVER allow the haulm, leaves, &c., of plants to remain on the ground when the crop is gathered." So says our coadjutor Mr. Keane (page 344), and we give it our hearty concurrence, though we are often unable to make in this matter practice accord with precept. It is but sad uphill work when we have occasion to resort to the well-known subterfuge "Don't do as I do, but do as I tell you." How often do we feel as if we wished we could do a dozen things at once, and thus bring up our leeway. It would be well for all would-be instructors to recollect, that a pound of good example will be more influential than a hundredweight of precept unbacked by that example. It is true there is scarcely a rule without an exception, as, for instance, in the late burning weather we were glad to leave rows of *Peas*, with nothing but their haulm on them, between beds of *Celery*, on account of the agreeable shade which the haulm afforded to the *Celery*; but in this wet weather we never see two or three rows of spent haulm of *Peas*, which we cannot well get at owing to the wet, and serving no purpose whatever, without the above words, "Never allow the haulm, &c., to remain," coming before our mental vision to anything but our personal satisfaction. The worst of it is we do not believe that we are alone in the matter. Slovenliness, untidiness, carelessness, endurance of filth, and the decay of organic matter are tolerated at this season of the year in thousands of gardens, from those of the peer to that of the peasant, but would not be endured for a moment in the cheering days of spring and early summer. We can well recollect that when the late Mr. Loudon was giving his descriptive outlines of his gardening tours, something like real alarm was felt



by some of the leading Scotch gardeners lest he should visit them in September and October. Notwithstanding the general attention to neatness, they dreaded the account that might be given of compartments of the remains of used-up vegetables, quarters of wet decaying haulm of Peas, with somewhat slimy, green, or rough walks in the autumn months. The difference in many gardens in spring and autumn might well lend force to the, we believe, unsound dictum that man is, or ought to be, the creature of circumstances. This is, perhaps, if anything, more observable in the gardens of the amateur and the cottager than among us professed gardeners, though too many of us have our omissions to remember, but for the present we say nothing of the causes of these omissions.

Look at the cottage garden in April, May, and June, every plant attended to, and secured; the alleys neat and straight, not a weed on the walks, not a dead leaf to be seen—everything in unison, with the balmy breezes, and the glorious cheering march of the sun as he progresses towards his highest point in the heavens. Contrast all this cheerful inspiring neatness with what now so often meets the eye—Honeysuckles and Roses that were over the porch subjected, unfastened, to the sport of every gale; stalks of cut Cauliflower with their flabby decaying leaves, and those of cut Turnips scenting the breeze; tops of Carrots, and Parsnips covering the ground in which the roots had grown, and pieces of Pea and Bean haulm in their wet slimy rottenness conjuring up in such a day as this all that is melancholic, intensified, if that be possible, by the walks being covered over up to the doorway with fat strong weeds, as if intended not to be walked upon cleanly and comfortably, but for sheep to nibble at and pasture on. Why should the shortening day, the lessening light, and the falling leaves, saddening enough in themselves, be increased in their sadness by the woe-begone aspect of such gardens? Talk and reason as we may, no man or woman can come out of a cheerful room without being unpleasantly affected by such slovenliness in the garden. Did we study our own happiness the garden should have extra pains bestowed upon it, to secure neatness and cleanliness in autumn and winter. When rain, and wind, and frost, and snow render it uncomfortable on the open wold, is that any reason why we should abridge our comforts around a blazing fire and a clean hearthstone? When Nature outside is disrobing herself of her summer attractiveness, is that any reason why the pet and profitable garden should be left to look after itself in the autumn months, and to speak chiefly of carelessness and untidiness, aye, and wastefulness too? for what is offensive to the eye and the nostrils would be valuable in the rot and the rubbish-heap, covered with soil to keep the enriching virtues from polluting the air we breathe. In many districts it is fashionable to give prizes for the best-kept and best-managed gardens, and the results have generally been very beneficial. Before such prizes were awarded, we think the gardens should be visited more than once, and one of the times we would specify to be from the middle to the end of October.

#### KITCHEN GARDEN.

*Storing Carrots and Parsnips.*—Here we have done very little, except tying-up and earthing-up Celery on a dry day, and taking up all our Carrots and part of the Parsnips on a dry day, and spreading out the roots under cover that they may be better dried before building them in heaps or bins. We lately met with a recommendation to use dry sawdust for packing among the roots; but scarcely anything could be worse. If the sawdust is from wood at all fresh, whether Pine or hard wood, it will less or more flavour the roots, and if at all freely used it will cause the heap of roots to heat and decay to a certainty. Dust-dry sand, earth equally dry, or dry burnt clay and earth, are the most suitable for this purpose. Where these cannot be had, and the roots are so juicy as to be inclined to heat in a heap, a good plan is to place layers of branches of trees between each two layers of Carrots. Air thus circulates freely among them. Covered over with old sashes our last piece of Dwarf Kidney Beans, still hearing nicely, and added another covering over the glass at night. Brought pots, sown under protection, under glass where they can now have a little heat.

#### FRUIT GARDEN.

Selected the only dry breezy day we have had, and gathered all, or nearly all, of our Apples and Pears left. This was so far fortunate, as there was a stormy gale during the night that would have dislodged most of them. A number had been pecked within a few days, and among others the rats had their nibble, and also began to carry to their burrows some of the best Plums from the orchard-house. Having found some holes

we set some ferrets to work, and killed several, and the smell of the ferret will keep them away for some time. It is amazing the instinctive ingenuity the rat, and the mouse too, will exhibit in securing a free outlet and inlet. It matters not how large the house, or how large the garden, they will never be satisfied until they have free access to every part of both, and a free outlet to the ground beyond. This instinctive habit must be kept in view, or whilst we watch at one hole the rats will escape at another. We have known a single mouse keep the residents of a house from sleeping by his constant gnawing, because, though he had every other room and closet open, two bedrooms had their doors shut, and he wanted free quarters there as well as elsewhere. The poor little mouse, however, has on the whole but a little of the great sagacity of the rat.

#### ORNAMENTAL DEPARTMENT.

Owing to the wet a little clearing, moving, and rolling was all that could be done. In addition to tallies, stakes, pot-washing, &c., potting and cleaning and top-dressing pot plants, tying Azaleas, regulating climbers, &c., our chief work has been getting on with Calceolaria cuttings, as detailed last week, and taking up and repotting Fuchsias, Cassias, *Scarlet Geraniums*, &c., from the centre of flower-beds. After these drenching rains we cannot expect the beds to do much now. All these plants above will be potted separately, in as small pots as the roots can be made to go into, and we retain the *Geraniums* for centres at their full length, merely taking away the larger leaves. Few of these take up with balls, but they soon make roots. We shall endeavour to stand them under glass, and in a few weeks most of the leaves will wither and decay. We never care for this if we can keep the stems sound, and a leaf or two fresh at the end of the stems. Thus kept, merely, in winter in a cool dryish place, these plants come in useful where beds are planted in the pyramidal style. Where flat beds are wanted, or nearly so, there is no necessity for keeping more than from 4 to 6 inches of the strong summer shoots.

We have several times mentioned how, after removing every leaf from such cut-in plants, we have packed them firmly and thickly in shallow wooden boxes and in cold pits. The only objection to cold pits is, that some of the plants will be apt to rot in very damp, frosty, foggy winters. Two or three correspondents tell us they become confused about pits, boxes, and pots, and would wish to have the simplest plan by which they can save the greatest number stowed away in fair-sized pots, say from 8 to 12 inches in diameter. Well then, we will tell them what we think is the very best method after a good deal of practice with different plans, and by which the *Scarlet Geraniums*, in the beds of their lawns or parterres may fill the same beds next year, and with little care or attention during winter. The chief essential is a dryish place to keep them, and we will mention a few places, the best being named first. The best place, then, would be a cool greenhouse, where frost and extra damp could be kept out, with a little dry heat; the second best underneath the stage or by the sides of the path, in a cool greenhouse, anywhere so that there shall not be much drip from the plants above; a third place would be a small spare room, in which a fire could be placed in very severe frosty weather; near the windows would do equally well in sitting-rooms, kitchens, &c., only in the latter case the plants must not be kept too hot nor too dry; a fourth place would be an unheated room, but where in severe weather you could throw a cloth and a little dry hay or litter over the plants and pots; a fifth place would be a dry garret, hay-loft, corn-loft, dry light stall of a stable, dry cellar with a little light, or any place naturally dry, where light could be given in mild weather, and frost kept out by covering in cold weather. In all these latter cases the plants would give less trouble than in cold pits or frames out of doors, and all could be done in the dry. If leaves the size of a sixpence come by the beginning of March the plants will be early enough.

Now for the minutiae. To please you we shall take 12-inch pots, merely premising that for pots larger or smaller we would just cram them with more or fewer plants. We drain these pots in the usual way, and fill them one-third full with any rough sweet material, as turfy loam and rough leaf mould, that we can obtain. What we mean to pack among the roots will be sandy loam, and leaf mould that has passed through an one-inch sieve. Both of these are to be in a nice friable condition, neither wet nor dry. We now go to the flower-bed, and with fork or spade dig up the plants. It does not greatly matter which tool is used, as, provided the roots near the collar of the plant are secured, we are less concerned about those that run



down deep into the soil. Holding the plant in your hand you will notice that it has one main stem 6 or more inches in length, and from that proceed from three to five secondary stems, and from these a number of summer shoots. Very weak ones of these we remove, and the others we cut down to within a joint or bud of the secondary stems. If particularly we smear these cuts in dry soil, or better still, in dry lime. Whilst holding the plant in one hand, we dock off most of the roots that are beyond from 5 to 6 inches in length. We then pack these roots firmly and thickly in the pots, leaving the stems chiefly above the rim, and fixing the soil well about them. In such a pot may be packed from a score to two dozen or more of these docked-in plants. If any very dry soil is handy we fill up to within an inch of the top, give the pots a fair watering before taking them to their winter quarters, and when well settled we cover with about half an inch of the dry soil. This so far prevents evaporation that little or no water will be needed in winter, except where dry heat in some way is applied artificially. Bear in mind that the plants are more apt to suffer from damp than from dryness, only the roots must not be dust-dry. If you find the soil beneath is becoming too dry, it is often better to pour the water through a hole made with a stick, instead of watering all over the surface of the pot, until the stumpy plants, with not a leaf left on them, begin to make small fresh leaves. Comparative dryness, airiness, and freedom from frost are all that they require. We have forgotten to say, that when no dry soil is handy the potting soil may come up to within half an inch of the rim, and then be watered; but as soon as the surface becomes dryish it should be broken with a pin or stick, and left loose, to prevent evaporation and keep moisture about the roots without more watering.

As the leaves come from the size of a threepenny silver coin to the size of a shilling they must have more light, a little more attention as to water, and be merely kept from frost. By the end of March or the beginning of April the plants will be hurting each other, the young shoots coming thickly and the roots a wig of fresh fibres all near home, and then you may either plant separately under protection, or pot the plants separately, and keep them under calico protection, or in a greenhouse, or window, or spare room where they will have light, hardening off until they will stand out of doors by the 18th of May. These old plants will not give so much trouble, or require so much care by a great deal, as plants propagated during the summer and autumn. The latter are more sensitive to cold, and also must have full light all the winter, whilst the old plants do with very little before the fresh foliage begins to come.

**Cloth of Gold and Golden Chain Geraniums.**—On the principle, we presume, that it is pleasant to have comrades even in misfortune, several correspondents have noticed what we said about being disappointed with both of these when exposed to the full sun in this very hot summer; but they have not noticed what we also stated, that in more shady places they did very well. In a long border, two-thirds of which was exposed to the morning and mid-day sun, and a good portion of the afternoon sun, the Cloth of Gold disappointed us, as though the plants were very good when turned out, they actually became much less during the summer. In the other part of the border, treated every day alike, but considerably shaded, the plants were strong and beautiful, with large handsome leaves. In two beds in a sunk panel garden, fully exposed, the plants were neither so good as the last-named, nor so bad as the first—were middling. In a series of beds where the sun would act on them pretty freely from between 7 and 8 a.m., to noon, but which were shaded from the sun after that time, the Cloth of Gold and Golden Chain both did very well, though with the exception of the shade the plants were treated as much as possible in the same way. Have any of our correspondents found these facts corroborated in their experience?—R. F.

### TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Roses, Fruit Trees, Conifers, Hardy Trees, Shrubs, &c. Select List of New Pelargoniums. General Collection of Auriculas, Carnations, Picotees, Pinks, Cinerarias, &c.*

Dreghorn & Aitken, 79, King Street, Kilmarnock.—*Catalogue of Gladioli.*

John Morse, The Nurseries, Dursley, Gloucestershire.—*Catalogue of Cuttings, including Chrysanthemums, Verbenas, Pelargoniums, &c.*

### COVENT GARDEN MARKET.—OCTOBER 28.

SUPPLIES about the same as last week, and we have nothing fresh to report. There are still some good Salway Peaches coming, and a few dishes of Strawberries about the market.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples.....	½	sieve	1	0 to 2	0	Melons.....	each	4	0 to 7	0
Apricots.....	doz.	0	0	0	0	Mulberries....	punnet	0	0	0
Cherries.....	lb.	0	0	0	0	Nectarines.....	doz.	0	0	0
Chestnuts.....	bush.	12	0	20	0	Oranges.....	100	10	6	20
Currants, Red ½	sieve	0	0	0	0	Peaches.....	doz.	15	0	20
Black.....	do.	0	0	0	0	Pears (kitchen)..	doz.	1	0	1
Figs.....	doz.	1	6	3	0	Pears.....	doz.	1	0	2
Filberts.....	lb.	0	9	1	0	dessert.....	doz.	1	0	2
Gobs.....	100 lbs.	120	0	140	0	Pine Apples ....	lb.	7	0	10
Gooseberries. ½	sieve	0	0	0	0	Plums.....	½	sieve	2	0
Grapes, Hambro. ½	lb.	1	6	4	0	Quinces.....	½	sieve	3	0
Muscats.....	lb.	3	0	6	0	Raspberries.....	lb.	0	0	0
Lemons.....	100	8	0	14	0	Strawberries.....	lb.	8	0	0
						Walnuts.....	bush	14	0	20

#### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	each	0	4 to 0	6	Leeks.....	bunch	0	3 to 0	0
Asparagus.....	bundle	0	0	0	Lettuce.....	per score	1	0	2
Beans Broad.....	bushel	0	0	0	Mushrooms.....	pottle	1	6	2
Kidney.....	½ sieve	3	0	5	Mustd. & Cross, punnet	0	2	0	0
Beet, Red.....	doz.	2	0	3	Onions.....	per bushel	3	0	5
Broccoli.....	bundle	1	0	2	pickling.....	quart	0	0	6
Brus. Sprouts. ½	sieve	2	0	3	Parsley.....	½ sieve	1	0	6
Cabbage.....	doz.	0	9	1	Parsnips.....	doz.	1	0	2
Capsicums.....	100	1	0	2	Peas.....	quart	0	0	0
Carrots.....	bunch	0	4	0	Potatoes.....	bushel	3	6	4
Cauliflower.....	doz.	3	0	6	Kidney.....	do.	3	0	4
Celery.....	bundle	1	0	2	Radishes doz. bunches	0	6	1	0
Cucumbers.....	each	0	6	1	Rhubarb.....	bundle	0	0	0
pickling.....	doz.	0	0	0	Savoy.....	doz.	0	9	1
Endive.....	score	1	0	2	Sea-kale.....	basket	0	0	0
Fennel.....	bunch	0	3	0	Spinach.....	bushel	2	0	3
Garlic and Shallots, lb.	0	8	0	0	Tomatoes.....	½ sieve	2	0	3
Herbs.....	bunch	0	3	0	Turnips.....	bunch	0	4	0
Horseradish..	bundle	2	6	4	Vegetable Marrows dz.	1	0	2	0

### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London. E.C.*

N.B.—Many questions must remain unanswered until next week.

**STORING CARROTS (Waverley).**—Until the shed is empty in which you purpose storing them in sand, we recommend you to make a long heap of them on the surface of the ground, and cover it a foot thick with earth, smoothening the outside so that the rain may run off.

**SIX GOOD KEEPING PEARS (A Constant Reader).**—Winter Nelis, Joséphine de Malines, Bergamotte Espéren, Beurré de Rance, Jean de Witte, and Forelle.

**SPARE TIME (M. H. B.).**—If you devote your spare time to raising Geraniums, &c., as you propose, the only market you must depend upon is Wycombe and other places in your neighbourhood. The wholesale nurserymen and florists raise such plants in their own gardens quite as cheaply as you could.

**GLADIOLUS (Stewart & Mein, Kelso).**—Your seedling Gladiolus appears to be of first-rate character, but it is too late in the season to form a fair judgment of it. The broad, bright rosy featherings are very conspicuous on the white ground, the individual flowers well formed, and the spike everything that could be desired. There can be no doubt but that in the proper season it will prove a very useful and valuable variety.

**WIGANDIA CARACASANA (H. G. M.).**—It would survive the winter in a cold greenhouse; it would do better under the shelves in a stove, but it must have as much exposure to the light as possible. The plant is *Nicotiana Langsdorffii*. We cannot undertake to say what the insect on your Pear trees is from your description.

**WORM CASTS (Ignoramus).**—Water your lawn with lime-water twice a-week, and it will banish the intruders upon your croquet ground.

**VINES LIFTED NOT GROWING (John Bowth).**—The Vines lifted last winter would be better taken out at once, for though they might shoot next year they will never be otherwise than weak, and more time will be lost upon them than were new Vines planted. We should not only plant young Vines in the place of old Vines, which have not grown this year, but plant a young Vine by the other old Vines that were lifted at the same time, that have made weak wood this year, and that require a little fire to ripen the wood. By this means you will have a house full of young Vines that will give good and improving crops quite as soon as the old weak Vines. When Vines are very old they are only worth lifting to make room for new ones, though they may remain for a year or two to afford fruit until the young Vines demand all the space.

**SEEDLING VERBENA (J. N., Barnstable).**—A pretty flower, but not superior to many others already well known.

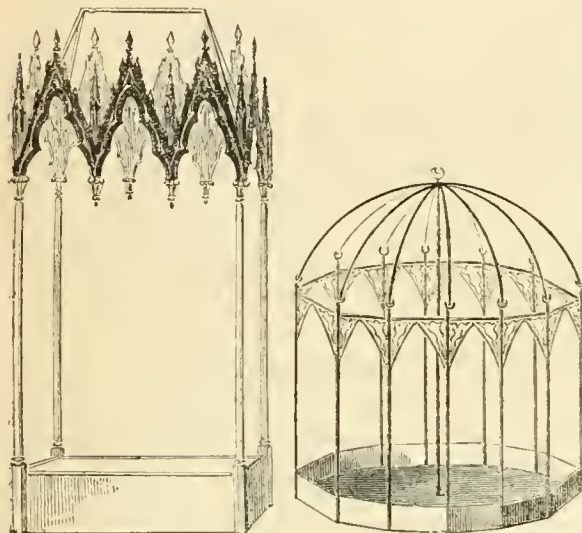
**CUCUMBER (J. H. P. M.).**—It is impossible for us to give an opinion of a Cucumber we have never seen. If it possesses the merits you state, and when you have a stock of seed you had better advertise it, and state where the seed is to be obtained.



**VARIOUS (W. J.).**—The following are good baking Apples, and come into use in succession as named: Keswick Codlin, Hawthornden, Beauty of Kent, Yorkshire Greening, and Royal Russet. Plums for your south wall: July Green Gage, Green Gage, Coe's Golden Drop, Ickworth Impetratrice.

**SUPPLY-HOUSE—PEACHES AND NECTARINES IN POTS (Rustie).**—If you have to use your small pit in the stove-house for supplying the conservatory, we should advise you to think twice before you planted any sort of Palm in it. We should think it better to keep everything in pots, with the exception of a few climbers. The Peaches most suitable for pot-culture in the late vinery, are Early York, Early Grosse Mignonne, Acton Scot, Grosse Mignonne, Royal George, Barrington, Walburton Admirable, and Salway to come in very late after the Walburton Admirable. For Nectarines the best are Pitmaston Orange, Violette Hâtive, Elruge, Downton, and Red Roman; for the hack wall two Violette Hâtive Peaches or Bellegarde, and two Violette Hâtive Nectarines; and for the trellis Noblesse, Royal George, Téton de Venus, and Walburton Admirable.

**WARDIAN CASE (Sophia).**—The best materials for making it are common red deal and sheet glass, 21 ozs. to the foot, as the size and proportions must entirely depend upon your own requirements and taste. The bottom part for holding the earth should be lined with zinc, and the top may be made to take off altogether, or one side may be made to slide. The following are ornamental forms, but they may be made quite plain.



**PROPAGATING POLEMONIUM CERULEUM VARIEGATUM (Sunset).**—This very pretty edging, line, or ribbon-plant is increased by division of the root, which may be performed when the plant commences growth in spring, and in autumn after it has done growing. In either case the offsets are taken from the roots with at least a crown, and a root if possible, and planted in a border of good light soil or potted into small pots, and placed in a cold frame with the pots plunged in coal ashes. The only difficulty is to obtain strong plants, and that is but small, as the plant is perfectly hardy, and its propagation by division only a work of time.

**RAISING STOCK OF VIOLA CORNUTA (Idem).**—This, like the above, is increased by division, and the best time to operate is in spring, pricking off the divisions in beds of moist earth about 3 inches apart every way, or so far apart that they may not interfere with each other; or they may be planted at once where they are to remain during the summer, watering copiously until established. On wet soils it grows freely, but on dry soils it requires abundant supplies of water in order to bloom continuously during the summer. It comes true from seed, which should be sown in the spring in moist soil. For directions as to how to get up a stock of *Oxalis corniculata rubra*, see answer to S. Edwards page 284.

**THRIPS ON FERNS IN PLANT-CASE (C. P.).**—The fronds of *Asplenium adnigrum* which you sent were suffering from thrips, which are the small insects which you see on the fronds. Your best plan would be to have the case removed to an outhouse, and there filled with tobacco smoke until not a frond were visible, taking care to have the Ferns dry. If you do not object to the smell of tobacco the plant may be fumigated in the room, and afterwards whenever you find any insects on the fronds. This would be the most effective mode of killing them, but if you object to the smell of tobacco you may remove the insects with a wet sponge, afterwards keeping the case more moist to prevent a recurrence of the attack.

**KEEPING THE APPLE-PIE MELON (A Subscriber).**—Keep it in a dry cool room free from frost. It will remain good throughout the winter, and be ready any time for making into pies in the same manner as Apples, for which it is said to be a good substitute. It cannot be eaten as a fruit like the Melon.

**ARE DECAYED LAUREL LEAVES INJURIOUS TO PLANTS? (A Gardener).**—Your question is fully answered in your own words "I gave my flower-beds an extra dressing of leaf mould made from Laurel leaves and my bedding plants thrived exceedingly well." In this we fully concur; and we think it was not the cause of the *Calceolarias* failing, unless the leaves were not fully decomposed, when they would render the soil too open and dry. We do not know what will keep *Calceolarias* from dying off soon after planting out.

**LATANIA COMMERSONII (Quæstor)** is identical with what is generally sold as *Latania rubra*, and requires the same treatment as other tropical Palms.

**STELLA GERANIUM CUTTINGS NOT ROOTING—WINTERING IN A SPARE ROOM (An Amateur).**—You do not state under what conditions *Stella* refused to root. We suppose the pots have been out of doors, and have been kept very wet in a shaded situation, in addition to which we should think that the cuttings were put in very close together and the soil very rich, or of a heavy instead of a sandy nature. We put in ours about the same time—the first week in September—and placed the boxes containing them on boards about a foot from a south wall, and in the full sun. We put 150 in a box 4 feet long and 4 inches wide, and counted them the day we received your letter, and 143 were struck and fine rooted plants. The most frequent cause of the cuttings damping is rich soil. The best soil is poor, light, sandy loam. You may keep the old plants in your spare room, covering them with hay in severe weather to protect them from frost. When the weather is mild remove the hay, and give them air and light. Keep the soil dry, giving no more water than sufficient to prevent the shoots shrivelling, and only during mild weather.

**CUCUMBER-HOUSE (J. S.).**—We can only repeat again what was stated at page 325. As you have reasons to object to a high wall for lean-to houses, then we would decidedly recommend a span roof for both vinery and Cucumber-house. Keeping in view that economy in building is your chief object, then for the Cucumber-house we would recommend a house 20 feet in length, 12 feet in width, 10 feet in height to the ridge-board, and the side walls 34 feet high. We would divide the base line into 44-feet beds at each side, including the inside walls, and 3 feet of a path in the middle. At the bottom of each of these side beds we would place two four-inch pipes, and 4 inches above them a slate to receive the earth, or for economy from 5 to 6 inches of rubble covered with fine clean-washed gravel, and, above that, from 15 to 18 inches of soil. Two pipes would also be required on each side for top heat. If Cucumbers were wanted all the winter, a third pipe would be desirable on the north side. The highest of these pipes should be close to, and fully a foot from, the tops of the side walls. Five openings should be left in each side wall opposite these pipes for ventilators, say each 15 inches long and 8 inches wide. For top ventilation we should propose a double ridge-board, the boards being braced together by cross-pieces keeping them about 9 inches apart. That space would be filled with a wooden ventilator hung on pivots, and protected by two boards forming a cowl ridge-board, with an opening on each side to let the air in. These ridge-boards, and the two wall-plates, would be almost all the large work necessary. These modes of ventilation would permit of all the roof being fixed. As the length of glass roof on each side would be only a little more than 8 feet, sash bars 14 inch wide and 3 inches deep would be sufficient, if placed not further than from 15 to 16 inches apart. Glass of that size and of good quality, commonly called thirds, can be bought at 2d. per foot if 16 ozs. to the foot, and at from 2½d. to 3d. per foot having an average weight of 21 ozs. to the foot. Of course fourths would range considerably cheaper, but we would not advise its being used. Taken in the lump and leaving out the wall-plates, the wood cut to size, planed, &c., by machinery, would cost pretty much the same as the glass. If economy is the sole object, the orchard-house style of Mr. Rivers must be adopted. Such a house as the above would be very neat, lasting, and also economical. It would be cheaper to have a number of squares made to open at the ridge instead of the double ridge-board, but it would not be so satisfactory. By the double ridge-board and cowl air can be given in all weathers. We would recommend a similar house for the vinery, whether the border were made outside or inside, say 20 feet wide, 34 feet high at the sides, from 12 to 14 feet at the apex. For such a house deeper rather than sash-bars will be required, and an iron rod should go longitudinally along the middle, screwed to each, and there should be a neat iron column for support at every 10 or 15 feet. Such a house may be modified to any shape, and be from 30 to 50 feet long, and 14 to 16 feet wide, and 11 to 14 feet at the apex; or even the same size as the proposed Cucumber-house would grow a good many Grapes, and, if of narrow width, the Vines could be planted on the south side, trained up the rafters there, taken to the top and down the other side. This is how the Vines are trained in the large vinery at Messrs. Lane's at Berkhamstead. For such a large house as we have first supposed, of 20 feet in width, &c., two pipes would be required on each side to have Grapes in the beginning of July. To have them early would require three pipes on each side. Muscats will do well enough either for the early or late house. It will be easy to turn either of these houses into a hip-roofed one, by having the north wall from 5 to 7 or more feet in height, and then taking the hip to the apex, making the south front all the longer. By the mode proposed all the ash-bars would be fixed at once to the ridge-board and the wall-plate at such a distance from each other as to suit the width of the squares of glass. Gardeners are quite right in what you say as to the expansion and contraction of iron roofs and the breakage of glass in consequence, but that is altogether neutralised in Mr. Beard's patent by placing non-conducting material between the glass and iron. If found successful, putting and painting will be altogether dispensed with.

**HOUSE FOR BEDDING PLANTS (G. Smith).**—We do not consider it advisable to have a lean-to facing the north for growing bedding plants. No doubt, as you say, they would do very well in summer, but in winter we would use such a house chiefly for keeping plants and not growing them much, as the absence of sun will cause them to draw, unless abundance of air is given with the artificial heat needed. We do not quite see whether the ten-inch pipe attached to the end of the furnace, with a six-inch pipe added in the propagating-house, acts as a flue or merely as a means of conducting heat from the furnace, but as surrounded with clinkers and covered with cackle shells it gives much heat, or we presume too much heat. In the first case, pots may be plunged or set on the shells with or without a hand-light over them. If the heat is too strong, it would be advisable to form either an open chamber over the brick-bats, or make a rough chamber with more brick-bats, before adding the shingle or shells, with openings to let the heated air into the house whenever it was too hot for the cuttings. The old kitchen boiler placed over the furnace, and holding twelve gallons of water, with a pipe inserted near the top and carried far enough, say 6 or 10 feet into the propagating-house, and the end of the pipe open, would enable you, by plugging, or opening the end of that pipe, to have moist vapour thrown into the propagating-house at will. You can also carry a two or three-inch pipe from that boiler through the pit near it, but, unless the top of the boiler is close to prevent all outlet of steam, and the water is kept at or near the boiling point, you would not get so much heat from the vapour as you might expect. If the boiler and pit were suitable, you had better



take a couple of three-inch pipes from it, and fill with water in the usual way. You will find much to suit you as respects propagating in "Window Gardening for the Many."

**ATHYRIUM FILIX-FEMINA PTEROPHORUM.**—By a slip of the pen in my paper on *Mosses*, Ivery's Nursery at Dorking, this is referred to *Polystichum*. It is a fine and very distinct variety of the Lady Fern, found in Scotland by the Rev. H. A. Walker, of Enfield, and is a great addition to the already fine and numerous varieties of this favourite Fern.—D. Deal.

**NAMES OF FRUIT (P. B.).**—1, Autum Colmar; 2, Beurre Diel; 3, Winter Nelis; 4, Beurre Bosc. (*J. Bryan*).—1, Hoary Morning; 2, Bedfordshire Foundling; 3, Hanwell Soring. (*H. L.*).—1, Easter Beurre; 2, Beurre de Capiaumont; 3, Brown Beurre. (*A Subscriber*).—1, Golden Noble; 4, Autumn Pearmain; 5, Bell's Searlet; 7, Golden Russet; 8 and 12, Northern Greening; 11, White Nonpareil. (*J. Button*).—Apples: 1, Pear-

son's Plate; 2, Ord's; 3, Autumn Pearmain; 4, Court-Pendu-Plat; 5, Ribston Pippin; 6, Beauty of Kent; 7, London Pippin; 8, Dutch Mignonne; 15, Nonpareil; 16, Scarlet Nonpareil. Pears: 3, Fondante d'Antoine; 6, Brown Beurre; 7, Urbaniste; 20, Glon Morceau. (*A Subscriber*).—1, Duchesse d'Angoulême; 2, Red Doyenné; 3, Glon Morceau; 9, Passe Colmar. (*Mr. Watson*).—2, Delices d'Hardenpont; 4, Beurre d'Arenberg; 5, Knight's Monarch; 6, Beachauwell; 7, Court of Wick; 8, New Rock Pippin; 9, Golden Winter Pearmain; 10, Syke House Russet; 11, Northern Greening.

**NAMES OF PLANTS (M. F. M.).**—1, too young to name; 2, *Scopolendrium vulgare marginatum*; 3, *Cyrtomium falcatum*; 4, *Nephrolepis tuberosa*; 5, *Didymocarpus Rexii*. (*G. N.*).—1, *Hypolepis tenuifolia*; 2, *Adiantum assimile*; 3, *Scopolendrium*, uncertain, probably digitatum; 4, *Athyrium Filix-femina crispum*; 5, *Doodia caudata*; 6, *Lastrea decurrona*. (*John Hutton*).—4, *Agapanthus umbellatus minor variegatus*; 5, *Candollea cuneata*; 7, *Rochia falcata*.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending October 28th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 22	29.417	29.329	54	41	63	53	N.E.	.20	Heavy rain; constant heavy rain throughout.
Mon... 23	29.662	29.559	60	42	53	52	N.E.	.30	Rain; densely clouded; overcast; slight rain.
Tues... 24	29.588	29.374	51	47	53	52	W.	.04	Boisterous; showery; lightning 10-11 P.M.
Wed... 25	29.903	28.843	58	29	52	52	W.	.10	Clear; boisterous; clear and cold; fine; slight frost.
Thurs. 26	29.631	29.102	58	35	52½	52	S.W.	.72	Rain; boisterous with rain; fine at night.
Fri... 27	29.001	28.950	57	25	53	52	S.W.	.07	Fine in the forenoon; becoming cloudy; rain at night.
Sat... 28	29.793	29.474	50	23	53	52	N.	.04	Cloudy and cold; sharp frost at night.
Mean..	29.570	29.384	55.43	34.57	52.78	52.14	....	1.97	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY PLAGUE.

THE gravity of the case must plead our apology for returning to the subject of the disease among poultry. We plead none for quoting from the *Times*. "The disease among poultry, which caused so much destruction some time since, and which it was hoped had disappeared, has again broken out with great violence in the department of the Eure and the adjoining districts. One farmer in the commune of Jamericourt has lost 850 hens. No explanation can be given of this new malady. While waiting, until a remedy can be discovered for it, precautionary measures are adopted. The first precaution is great cleanliness, and the frequent washing of the hen-houses with lime water to destroy the insects which torment the fowl. It is very beneficial to fumigate the hen-roosts from time to time by burning near them a handful of brushwood. The *Journal de la Ferme*, noticing the disease, observes that in a well-kept poultry-yard fowls are not only less subject to disease, but they become fatter, better flavoured when brought to table, and less tormented with insects. The poultry-yards of France, however, are in process of improvement. They are not only better cleansed, but the breed is being improved by being crossed, according to the system of the celebrated English physiologist, Dr. Darwin."

If our memory serves us aright, one of the best writers on poultry, Mr. Jacque, advocates, on the testimony of those who do nothing for a livelihood but fatten poultry in France, that the birds undergoing the process shall never be cleaned out, affirming that the filth in which they live contributes to their well-doing. No fallacy can be greater.

Without in any way detracting from the merits of French table poultry, it may be safely said that in this country we succeed in fattening fowls at a much earlier age than they do in France, and that we attain as great weight as they do with birds twice as old. Our system, then, is worth something, and in it the greatest cleanliness is practised. To ensure it to the fullest possible extent, and to prevent the possibility of any dirt, the bottoms of the fattening-coops are made of bars only. The birds sit thereon in a roosting position, while everything objectionable in its nature falls through to the ground. The size, fatness, and quality can only be attained by taking advantage of every favourable circumstance, and cleanliness is one of them. That which is good for table poultry is good for stock birds. They cannot be kept too clean.

The article we have quoted speaks of insects, and we know these pests are productive of much disease; but there is a remedy for them. They appear mostly in wet weather, and as we are likely to have much of that now, it will be well to be prepared for it. Fowls in confinement require the same help

against them that Partridges and Pheasants do in a state of nature. Those who study the habits of these birds know what it is to find them, what is technically termed, dusting themselves, and the traces of the operation are found in all dry spots where these birds abound. It is not the luxury that is imagined; it is a positive necessity. It is the means they employ to rid themselves of vermin. For this reason, in a wet time, it is common to see under a beetling bank, among the roots of a tree where the rain has not reached, that Partridges have been dusting. We must provide our fowls with the same opportunity. Let the floors of their roosting-houses and their haunts be covered some inches deep with dust, or, if that is not convenient, let them have in one corner of some other dry place a good heap of dust or wood ashes. Mix therewith some black sulphur, and you will see how the fowls appreciate it. You will always have them constantly in health. If it can be done, divide them; do not let too many roost in one house, and choose the places as lofty and airy as you can. Lime-white the houses frequently, and put camphor in their water-vessels.

We do not wish to be alarmists. We do not think the disease will visit us, but we think it wise to adopt all precautionary measures. Poultry is not kept in England on so large a scale as in France and some parts of Germany. Few farmers in England can lose 850 hens. It may be that in some instances the number kept has produced the disease. It is very difficult to keep a large number on a limited space. But it would be very annoying, just when public attention is more than ever called to poultry, and when owing to the disease in cattle there is greater demand for poultry and eggs, to have our stocks decimated or destroyed, when a little painstaking might have saved them.

### THE APPOINTMENT OF JUDGES AT THE BIRMINGHAM POULTRY SHOW.

ON perusal I feel assured that the two exhibitors of Game fowls, signing themselves "JUSTITIA" and "EXHIBITOR," have quite overshot their original subject, in giving vent to statements so very closely approaching to personalities, instead of exclusively adhering to the mode of appointment, as a body, of the Birmingham Judges. The great ground of complaint by exhibitors at Birmingham is this, that the appointment of arbitrators rests exclusively with a single individual instead of being the selection of the whole of the Committee. The Committee very curiously shelve every remonstrance, as was the case a few years back with the memorial which then obtained the signatures of so many poultry amateurs, and was at the time fruitlessly presented. This will as certainly be the fate of any future application. Exhibitors undoubtedly have a right to a voice and a proper consideration of their appeals for even-handed



justice; but if these are still refused them by the Managers of the Bingley-Hall Show, it is an absolute waste of time to persist in the endeavour to turn them from their error.

In case of another refusal this year, a remedy is now close at hand, that once applied will tend much to the popularity of the Show, and also its extension more than heretofore, and put an end to all such unseemly agitations. My suggestion is this. Let an entirely new Committee be chosen from parties only, whose desire is rather to see a good show of poultry and Pigeons for Birmingham, than a mere exhibition of agricultural implements, to which purpose of late years the shows at Bingley Hall have been so sadly perverted. A far more eligible building is now fast drawing to completion, Curzen Hall, situated still nearer to the railways, infinitely better lighted and warmed, and containing a gallery all round sufficiently large to hold considerably more entries than have been as yet ever made for a Birmingham Show.

Every one who has seen the Birmingham poultry pens at Bingley Hall, well knows how very short of present requirements such pens are. In fact, they appear modelled from bygone plans, and totally defeat the principal object—that of allowing a correct sight of the specimens; for most of the bottom rows are so dark as to render inspection a downright impossibility. If the poultry and the Pigeons were conjoined to the Dog Show—that is, so far as being held at the same time and place, on the ground floor and gallery respectively, the attendance of visitors to amply repay all expenses, independently of a substantial balance accruing from year to year, might be with certainty realised; and then, if Bingley Hall can support itself under the restrictions of a show of fat cattle, sheep, pigs, and implements only so much the better; if not, the conservatism of present abuses has alone the merit of its downfall, for the new poultry exhibition will still have annual increase and prosperity.

It is not my intention to touch exclusively on the appointment of particular gentlemen as Judges, or the individual classes which their knowledge as breeders makes each of them most competent to arbitrate, though I am sorry to find a great portion of your communications tend in that direction. It is surely rather the principle of selection than the personality of the Judges that is the matter in question, and most good would ensue by confining it to this subject altogether. "JUSTITIA," however, no doubt unconsciously, makes one remark that needs correction, or it may obtain credence from those readers who happen to be as little conversant with facts as this statement of "JUSTITIA" evinces. He says, "It is quite true an attempt was made to throw discredit on some of the decisions, but it is well known that the alleged dissatisfaction merely existed with one or two disappointed exhibitors, and, perhaps, the best answer to such insinuations is the re-appointment by the Birmingham Committee of the Game arbitrators." This is, on the contrary, a mistake *in toto*, and cannot be reconciled with the circumstance, that at a meeting held at the Bingley Hall Tavern during the continuance of the Show named, and close to its very doors, nearly a hundred exhibitors of all breeds of poultry passed an unanimous vote of their high disapproval of the mode of electing the Birmingham Judges, and ventilated their grievances publicly in language perhaps far more pungent than courteous. Surely, then, such a meeting could scarcely be said to be the impersonation of the "one or two" malcontent exhibitors that "JUSTITIA" describes.—OLD COCHIN.

#### ATTEMPTED SWINDLING.

I ADVERTISED a week or two ago for some Goldfinch mules for exhibition, which I am always ready to buy if they are first-rate, and my letter was answered by a man calling himself a surgeon, whose name began with a C and ended with an s, saying he had some to dispose of, and giving me an address in Caledonian Road, Islington. Of course I sent to see about him, and found the address was a post office. He would not send the birds without the money, which he did not get, although I gave him several references in London. Now, I have no doubt that this is the same man who tried to do your correspondent "CAXUS" with the poultry, and if so, and your correspondent can punish him, I will subscribe £1 1s. towards the expenses.—H. A.

CHELMSFORD AND ESSEX POULTRY SHOW.—It is proposed to hold a poultry show in the Corn Exchange, Chelmsford, at the same time as that of the Chelmsford and Essex Chrysanthemum

Society, on Wednesday 15th November next. (See advertisement.) Proper exhibition pens, with food, water, and attendants, will be provided in the large and well ventilated Hall of the Corn Exchange. The entrance fee will be 1s. per pen for subscribers, and 2s. to non-subscribers; and prizes will be given ranging from 10s. to 5s. It is proposed to exhibit also photographs of all the celebrated exhibitors, and copies of all the modern works on poultry and Pigeons. It is hoped that exhibitors and others will help the attempt, as the facilities of communication by railway are great. The promoters of this Show trust eventually to establish an annual show in Chelmsford, with a more liberal prize list and a more comprehensive schedule.

#### SHABBY.

OTHER correspondents have told you how they have been "fairly diddled," as Lord Byron sings in *Don Juan*, by some unfair Mrs. Firebrace or some angel at Islington; but I have a tale to tell of a transaction for which, in spite of Dr. Johnson's condemnation, there is no word but "shabby."

Nearly a year ago I was written to by an individual holding a most respectable position in society. He wanted some birds which I had, and he proposed an exchange for others which I did not want. I declined the proposal, but I offered to sell what he wished to have. All sorts of offers and proposals came in letter after letter, which I answered courteously, until, wearied of the correspondence, I sharply closed it after an expenditure of much patience and postage.

In the beginning of August last my voluminous correspondent wrote again, asking me this time to sell him a pen of birds that would be sure to take a first prize at Chippenham. I offered him at £4 a pen of chickens which had been highly commended at Plymouth, the only time when they had been exhibited, and when I was afraid they would be too young to gain a notice. I offered him also at £3 an adult pen which had taken two first prizes, besides gaining a highly commended notice at Plymouth this year during the moult. He accepted the latter offer, and the birds were sent to his uncle's. Then began again the arrival of two or three letters a-week with inquiries and objections, all of which for a time I answered patiently. Three objections only did he profess to raise—not many for a pen at £3 which had taken two first prizes. It was evident he wanted such a pen as I should not object to give £7 or £8 for, with a warranty of taking a first prize, which no honest man would give, and that he wished to obtain this either by an exchange or at some paltry price. I saw I was in for another bout of letter-writing, so I offered the alternative of returning the birds or sending the money. The money was sent. More letters followed, which I answered briefly by saying that I would give £3 for the pen after the Show if they did not take a prize at Chippenham.

I hoped for a little repose, at all events until after the Show. My voluminous objector, however, suddenly broke out again about the time of the Calne Show. He was going to carry off the first prize there, but one of the hens had died; and he wrote in post haste, asking me to send a bird that would match and renew the pen. This I could not do; but I sent instantly a matched pair of pullets, saying that I would take the odd hen again in part payment if he would send it carriage paid, and that he must forward to me £1 in money. He expressed himself pleased, and, what was better, ceased writing, although he owed me 20s., and returned the pen without paying the carriage.

I heard no more until after the Show, where he had entered a pen of adult birds and a pen of chickens. He did not get a notice. He then wrote for a pair of pullets of a different kind, which I could "warrant as first-prizetakers," and claimed by virtue of a promise—which, he it remembered, was made with reference to Chippenham and not to Calne, and concerning a tried pen of adult birds, and not an adult cock with two untried chickens—that I should take the birds back again at their full price, or rather at a price which he put upon them, and which was a shilling more than what I had charged for them.

Disgusted beyond measure, I replied that his conduct was shabbily evasive, and that to get rid of such a nuisance, although my prize pen was destroyed and he had had the use of my birds for three months, I would send him a cheque for the amount he claimed, deducting only the 20s. which he still owed me for the pullets. The birds were returned to me, the cheque has been paid, and I have a receipt contained in a



letter sealed with a crest, where something is said about a reconciliation which reduplicates the letter *l*.

So much for my postage and peace of mind. The one is reduced and the other restored. I have now ended my philippic, and have told the tale of my shabby voluminous correspondent, who twice received birds of mine at his uncle's as purchased, and returned them unpaid after he had enjoyed the use of them for some time.—COCK-A-DOODLE-DOO.

### MIDDLETON POULTRY SHOW.

It may appear late to make complaint of the above Show, but by giving publicity to the following facts relative to my case as an exhibitor, it may induce the Middleton Secretary and Committee to be more careful and attentive at a future exhibition.

On entering the Show field at one o'clock I first went to the Pigeons, which I found at that hour exposed to the full sun, and neither supplied with food nor water. I requested one of the attendants to feed them, which he promised to do. An hour after, the birds were still unsupplied, and suffering from exposure to the weather, and it was not until I placed a piece of silver (in the shape of a shilling) into the man's hand that I could prevail on him to procure food and water.

Now as to elaiming birds at the Middleton Show (it was done, I believe, but how I do not know). I went repeatedly to the sale office for this purpose, but no Secretary was to be found, and no purchases to be made. Several intending purchasers with myself were wasting our time waiting for the return of the Secretary; but as this seemed of no avail, one of the clerks informed us we should be sure to find Mr. Mills in the Show field; but as we did not happen to know Mr. Mills we did not find him, and it was only very late in the afternoon that I did see the Secretary in the sale office, though I paid many and frequent visits.

I have now a word or two to say as to the payment of the prizes. I had a first and second prize for Pigeons, and a third for Buff Cochins, which were claimed, and am receiving payment by instalments. My first remittance was the amount of Pigeon prizes (less one shilling and sixpence, for what I know not, and am not informed) in stamps, charged at the post office for being over weight. Since then I wrote to the Secretary requesting him to forward the balance due, and have lately received the amount of the poultry sale, with another deduction, besides the usual commission. I have applied again for the prize awarded to the fowls, but my letter is not acknowledged.

Again, I exhibited a mastiff dog, and as it did not return from the Show I telegraphed to Mr. Mills as to its safety, paying at the York office for a return message, and received no answer. I did, however, the third day, after telegraphing, receive a letter, and on the fourth day the dog arrived.

I have no wish to complain unnecessarily of the management of the Middleton Show, but I do say exhibitors have a right to courteous treatment, and their specimens to have proper attention.—WILLIAM MASSEY, *Fulford, York*.

**BIRMINGHAM AND MIDLAND COUNTIES EXHIBITION.**—We have received the prize lists and programmes of the seventeenth Annual Show of this deservedly popular Society, and observe that considerable additions and alterations have been made in the number and value of premiums offered, the whole being now upon a most liberal scale, and the total amount reaching the sum of £2080, upwards of one-third of which is appropriated to poultry and Pigeons. The arrangements for excursion trains are progressing satisfactorily, and the principal railway companies have also kindly consented to convey stock and implements back from the Show free, if unsold. We remind our readers that the entries in every department will close on Wednesday next, November 1st; intending Exhibitors should therefore, at once communicate with the Secretary, whose address will be found in our advertising columns.

### MANAGEMENT OF DRIVEN AND UNITED BEES.

I HAVE been induced by reading the articles on bees in your Journal to try driving and uniting the bees from old stocks, instead of the old plan of killing them. My first attempt was

on a strong old stock early in September, and I succeeded in getting the bees into a new hive, in which I had put a side window, and fastened three pieces of comb which I hoped would give them a start, and which I was sorry afterwards to find fallen down. In about three weeks I gave them another lot of driven bees, and they have now about half filled their hive, an ordinary-sized one, with comb and honey, and for the last week I have fed them with honey. I am very anxious to preserve them and try to obtain a few glasses of honey next summer, as I have hitherto had none but the old straw hives without supers or any method of experimenting. I should be glad to visit an apiary and learn to distinguish the different kinds of bees, if I could do so without intruding. I should also be glad to know how and where to purchase one or two new kinds of hives to put my swarms in next summer?—S. BRIERLEY.

[If you feed your driven bees up to a nett weight of from 15 to 20 lbs., there is every probability of their surviving the winter and doing well next summer. Any of our bee-keeping correspondents would, we are sure, be most happy to show you their apiaries, whilst Messrs. Neighbour & Sons, 149, Regent Street, and 127, Holborn, will readily supply as many hives of modern construction as you may require.]

### A BEGINNER'S DIFFICULTIES.

I COMMENCED bee-keeping this year, but was at first very unfortunate in losing swarms from my only stock (a set of Nutt's collateral boxes), and smothering one of those I did get (which, to make matters worse, was the first one), in endeavouring to hive it in a large bell-glass. My stock now consists of a set of Nutt's boxes and two stocks in Woodbury bar-frame hives. No. 1 Woodbury was formed by uniting three condemned stocks in August to a stray swarm, hived July 10th, one of which driven swarms, I believe, left and joined Nutt's hive the first day they stirred out, which was five or six days after being driven, the intervening days being very wet. No. 2 Woodbury was formed by uniting two condemned stocks to two very weak swarms from Nutt's box. This stock is not so strong as I supposed it would have been, but what cause to assign for it I cannot say, as in all the swarms joined I could not find more than about twenty bees killed by fighting. Some certainly went back to their old place of residence, a neighbour's hard by, but very few. I fed the stocks liberally at the time of junction, as they had but little honey gathered, and the weather continued very unfavourable for some time.

Some of my greatest difficulties now lie in not knowing how properly to manage Nutt's boxes. They have been in use for the last ten or twelve years, and, I believe, were kept more for ornament than anything else, as they seldom gave more than one of the side boxes of honey in any one year, and the bees often died in the following winter from want of food. The centre box or pavilion not containing enough honey to support the bees, I have now put a box on the top of the pavilion (having removed the crown-board), containing 450 cubic inches, and which I intend to leave there permanently, which makes the stock box contain altogether 1450 cubic inches, and stand 18 inches from floor-board to apex. Is that height too great for the stock box? or say how I could have managed better. I feared leaving them any honey in one of the side boxes, as when cold weather sets in they would in all probability retire to the pavilion. I may say that since I took from them the side box and gave them the top one, they have worked far better than before; but then the unprecedented fine season we have had since then may have been the only cause of that.

This set of boxes wants a new floor-board; will it be a good plan to make three entrances sunk in the new one—of course one left constantly open for the centre box, and the others leading to side ones, to be used when bees are working in them, so that they may go in and out by either way as they please? I saw in a late Number of your Journal that you advised a correspondent to make holes so as to save the lives of bees which could not find their way out of side doors. Did you intend them to be permanent as I mean these?

There has been but very slight mention made in your Journal of Nutt's boxes, owing, I suppose, to their not being in favour with scientific apirians; still I, for one, will feel much obliged for any information which any of your correspondents may give concerning them, more particularly as I fancy if Woodbury hives could be worked profitably on the collateral system, it would save a great amount of trouble, such as lifting on and off supers when manipulating them. Also say, Does it answer to



have supers on Woodbury hives as large as a standard stock box: as it occurs to me that by so doing, and using frames as in stock box, they would be found invaluable in strengthening weak stocks, &c. My No. 2 Woodbury hive is a framed glass one. Is it sufficient to replace the glass crown-board by a wooden one for the winter, or should I change the bees altogether to a wooden one? They are working in a dwelling-house through a four-inch brick wall. Will it be too late to do so after the 1st of November? How can I tell the difference between drone and worker brood?—W. W., Ireland.

[Your No. 2 Woodbury hive may possibly be queenless, which would account for its lack of strength. This doubt should be set at rest by lifting out and examining the combs the first fine day. Should there be no queen, and if you are unable to supply the deficiency, the bees must be united to another stock. The "pavilion" of your Nutt's hive seems to be a cube of 10 inches inside. This is much too small, and we doubt whether the addition you have made on the top may turn out an efficient remedy. Whilst making a new floor-board we may hint that we have found it very convenient to divide it into three, in fact, a separate floor-board to each box, and we should at the same time take the opportunity of substituting a new pavilion, which, if wished to take frames, might be 14½ inches from front to back, by 13 inches wide, and 9 inches deep inside. This would accommodate nine Woodbury frames, and would afford the opportunity for trying a frame hive worked collaterally. We advise a small entrance being made to each of the side boxes, but should use them only in case of necessity. Woodbury hives, properly so called, are fitted with what their inventor calls "compound frames," in which the bars and frames are separate and distinct, as delineated in page 15 of the fifth edition of "Bee-keeping for the Many," published at this Office, price 4d. Although hive-makers frequently omit this contrivance, it is in reality essential to the carrying out of the Woodbury system of bee-keeping, in which, by its means, frames are used only in stock hives and bars in supers, without forfeiting the advantages arising from unlimited interchangeability of every comb in every hive and super in the apiary. If you get the new "pavilion" ready by the month of April there will then be no difficulty in transferring to it both bees and combs, and if you cannot refer to former Numbers in which directions are given for performing this operation, we will repeat them if you make the inquiry, desiring at the same time your new box, early in March.

It will be well to shift the bees from the glass box to a wooden one before winter sets in; but whether this operation can be prudently attempted so late as November depends entirely on the season.

Drone brood is easily distinguished from that which will produce workers by the greater size of the cells in which it is deposited, as well as by their being elongated above the general surface of the comb, and the great convexity of their covers.]

### EFFERVESCING CLARY WINE.

To every gallon of water add 2½ lbs. of loaf sugar; and one quart (exactly) of Clary flowers (blue) gathered dry, *not pressed down*. Boil the sugar in the water and let it cool; then add the Clary flowers and half an ounce of yeast to each gallon, and stir a-day for a fortnight. At the end of that time add to each twice gallon half a drachm of isinglass, melted in water. Bung up very closely for three or four months. Bottle in champagne bottles, using good corks, and keep the bottles upright on a cold stone floor. Let the wine clear for a few hours in a vessel after it comes from the barrel before bottling, and be careful that the barrel has no taste, or it will spoil the flavour, which is very delicate, and much better than that of ordinary champagne. A little white brandy may be added if wanted to keep more than one year.

### OUR LETTER BOX.

POULTRY SHOW IN LONDON.—"Are we likely to have a Show in London this year, either at the Crystal Palace, or at the Agricultural Hall, Islington, or at Alexandra Park?—I see none as yet advertised.—D. P. P." [Can any of our readers send us any information in reply to the above query?]

FEEDING GAME FOWLS (F. K.).—Game fowls for exhibition should be fed on meat, good barley, bread and ale, and white peas. Nothing improves the condition of a Game cock like raw yolk of egg. Black Game are not sufficiently numerous to take the same standing as other colours; but in open competition, if they had more merit than others, their colour would be no bar to success.

GROUND OATS FOR POULTRY (Percy Cross).—The ground oats you want can be had of Mr. Agate, Slougham Mills, near Crawley, Sussex. He will send them if you write to him.

GAME BANTAM COCK (A Young Shower).—A Game Bantam cock should be a Game cock in miniature in every particular. The head should be very fine, and give the idea of a snake. Such an one will always be preferred to a thicker-headed one. The smaller he is the better. Under no circumstances should he exceed 20 ozs. The lighter pullets are preferable, if they are equally good in other points. A most important part of a Game cock is that he should carry his wings up and close to his sides. Many carry them too much like a Sebright.

WARNING A POULTRY-HOUSE (Bromley).—A Joyce's stove may be placed in a hen-house as an experiment, but it will not be found desirable. Fowls do not need artificial warmth, and the result of it is to give them a chill whenever they leave the house in sharp weather. Nature wants very little help if we observe her conditions, and merely supply the food birds would obtain in a natural state. The cold weather comes when the plumage is new, and thick, and close; able to repel all wintry attacks. Artificial warmth only induces them to open their feathers. Let your house be free from draughts, your perches low, and your food generous. The colder the weather the better the food.

SUNFLOWER SEEDS—WOOD PIGEONS ROBBING (Wimblym).—Since we last wrote we have made inquiry about sunflower seeds as food for poultry. Many tell us they are very fond of them. A very good correspondent of ours, and an old sportsman, tells us, "My fowls like the seeds much, but my Pheasants are greedy after them. There is, however, this difference—they infinitely prefer them in the flower. They seem to like to knock them out, and eat them with greater relish than when they are thrown down. They prefer them to any other food." The sunflower requires a good soil. The only way to prevent the Wood Pigeons from eating the Pheasants' food is to feed them from hoppers. If these are made of zinc they do not warp or injure by exposure to any weather. The food can only be got at by the bird jumping on a treadle there is in front. The weight of the bird opens it and shows the food. Being weighted for a Pheasant, a Pigeon will not open it. They can be had at Baily's in Mount Street.

HENS HOW LONG PROFITABLE? (D. P. P.).—Hens may be kept profitably till they are four or five years old, and sometimes older. They have been known to live twelve years. The origin of Dark Brahas is involved in mystery. We are, however, in a position to say that the first were imported from the United States.—B.

BASKET FOR POULTRY (G. R. B.).—The first requirement of a poultry basket is, that it be round, high enough for the birds to stand upright in it, and that the top be strong canvas, so that if the birds fly or jump up they will not injure their heads. It should be close all round. The basket should be 30 inches high, 28 inches in diameter for four fowls, 22 inches for three, made of ordinary wickerwork, and as close as possible. There is no necessity for any contrivance for food. For Pigeons a similar basket, 15 inches high and 12 inches in diameter, would be sufficient. We cannot name any price. A basket-maker in your neighbourhood could make them.

PROFIT FROM POULTRY (N.).—If you want eggs, keep Spanish, La Flèche, or Crève Cœur. If you want hardy useful fowls, keep Brahas or Cochins. If you want choice table poultry, keep Dorkings. Begin operations at once. Start with fifty hens and six cocks.

COCKATOON WITH BROKEN WING (A Ten-years Subscriber).—We advise you to let the bird remain as quiet as possible. It is useless to try to bandage the wing, as it would soon pull the bandage off. The feathers ought to have been cut off short at the time of the accident to lighten the wing; but as the injury has been done some days we would not advise disturbing it unless it is seen to be quite loose at the broken part, and as it were dangling at the bird's side; then you may resolve upon cutting away the feathers.

MAGPIE PIGEONS (J. R. J.).—Magpies are usually bred in this country are only Toys, and would not be eligible as Tumblers, unless they really did tumble; then, of course, they would be entered as Magpie Tumblers.—B. P. BRENT.

TO MAKE TUMBLERS FLY (Highflyer).—Put your Pigeons in a basket and send them out by some one, at first a quarter of a mile daily, increasing the distance till they will come home three or four miles. Continue this for a month, when you will find them in flying condition; but there will be some difficulty to keep them off their favourite resting-place. Send them out hungry, so that they may go in directly they come home, and keep them in for the rest of the day. They will then, in a measure, forget the places they used to settle on. When you begin to fly them at home it would be as well, if you could do so, to hoist a flag on that place, or put a boy there to drive them away till they entirely forget it, but unless they are of a good flying sort it will only be lost trouble. Better kill them and buy some trained high-flyers, and do not let these acquire bad habits.—B. P. BRENT.

CHRYSLIS OF DEATH'S-HEAD MOTH.—It may help to the solution of "C. P.'s" query in your last Number, page 343, if I inform him that a chrysalis of the Sphinx Atropos was brought to me from a potato field on the 29th of September last, and that the moth emerged on the 10th of October.—W., Forest Hill, Oxon.

NATIVE HIVES.—Mr. M. Smith, 8, Pelham Place, Holland Road, Brixton, wishes to write to "M. D." about these hives.

SUPERING A COMMON STRAW-HIVE (A Young Subscriber, C.).—There is no difficulty whatever in cutting a three or four-inch hole in the crown of a common hive with a sharp penknife, but it will be better to leave doing it until spring, unless it be required at once for feeding.

CARRIING BEES TO A DISTANCE (J. Alexander).—Confine the bees by tying the hives up in pieces of cheescloth, and then passing a cord tightly round each about 2 inches from the bottom. Steadily invert the hives, and secure them in that position by carefully packing them round with either hay or straw. Employ a light vehicle, hung on good springs, and drive slowly. Select a sheltered position, and let the stocks face any point from south-east to south-west that may be most convenient.

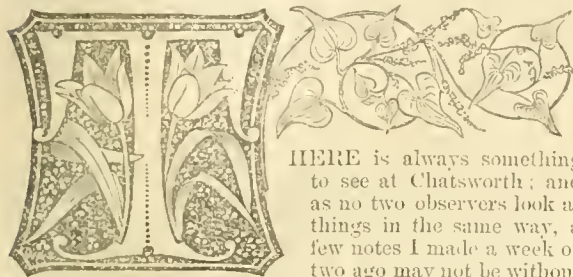
PHOTOGRAPHS—VENTILATING (A South Lancashire Bee-keeper).—The cartes of the principal contributors to our various departments, and among them that of the "DEVONSHIRE BEE-KEEPER," are published at this office, price 1s., or free by post for thirteen postage stamps. We do not ourselves ventilate our hives, but it is practised and recommended by many good bee-keepers, and the present is about the time for carrying it out.

## WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 7-13, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.	Moon Rises.		Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year
			Day.	Night.	Mean.		m.	h.		m.	h.				
7	Tu	Hooded Crow arrives.	52.4	37.5	45.0	18	6	7	21	41	33	8	13	11	19
8	W	Ash leafless.	51.1	35.9	43.1	18	8	7	20	4	39	9	56	11	20
9	Th	PRINCE OF WALES BORN, 1841.	50.0	34.4	42.2	15	10	7	18	4	45	10	after.	21	16
10	F	Bunting's note ceases.	55.5	34.9	42.7	22	12	7	16	4	51	11	0	1	21
11	S	Plane leaves fall.	50.7	34.7	42.7	15	14	7	15	4	morn.	25	1	23	15
12	Scn	22 SUNDAY AFTER TRINITY.	50.4	33.7	42.0	16	15	7	13	4	56	0	50	1	24
13	M	Apricot leafless.	49.6	35.5	42.6	20	17	7	12	4	58	1	12	2	25

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 50.7°, and its night temperature 35.1°. The greatest heat was 63°, on the 12th, 1841; and the lowest cold, 18°, on the 9th, 1854. The greatest fall of rain was 1.16 inch.

## FOUR HOURS AT CHATSWORTH.



HERE is always something to see at Chatsworth; and as no two observers look at things in the same way, a few notes I made a week or two ago may not be without interest. Fortunately, the

day that I selected for my visit was most brilliant; and as if on purpose to give an extra gratification, the great fountains were set playing. This was in compliment to a large party of the Social Science Congress, which had come over from Sheffield to examine the innumerable and admirable treasures contained in the Hall, as well as to enjoy the beauty of the gardens and pleasure grounds. The fountains are wonderfully fine. The great jet called the "Emperor," in compliment to the Czar Nicholas, who once visited Chatsworth, throws the water to the immense height of 240 feet! On a fine sunshiny day the rainbows play about in its mimic rain, three or four at a time, sometimes forming perfect arches, then fragments of arches, and changing their angles in the most beautiful manner, according to the direction given to the spray by the wind. Viewed, as this lovely spectacle is, from the foot of tall trees, the effect is magical.

Going in the first instance through the kitchen garden, the visitor to this grand place cannot fail to be struck by the Pines, which are grown in large quantities, and are in the finest possible condition. Some of the plants almost deserve to be called gigantic. When the pits for them were dug, it would appear that the earth was thrown into one great heap, for alongside of them there is literally a "Strawberry hill," the mound of earth being shaped into circular terraces, the edges of which are supported by miniature palings, and the plants disposed so as to let the fruit be sustained high and dry, almost as if grown against a wall. Whether such were the origin of the mound or not, it has been taken advantage of in the most ingenious manner, and is a capital model for those who would grow Strawberries to perfection. Under glass was the Cape Gooseberry, *Physalis edulis* (?), in flower and fruit; also a pretty variety of the Love Apple, named Tomato de Lave. The fruit was perfectly globular, the size of a large marble, and grew in racemes of six or eight. A White Mulberry, *Morus alba*, grows against one of the walls—a most extraordinary place for it if planted there in expectation of fruit.

The stoves and greenhouses belonging to this part of the establishment are crowded with curious plants. On entering the first, we have a perfect veil of Pitcher-plant stems and foliage, with scores of the strange little receptacles alluded to in the name. The luxuriance of these plants

appears to be in a large measure referable to their being grown in living sphagnum, the surface of which looks as green and fresh as if it were only just transferred from its native swamp. Close by is the famous plant of *Amherstia nobilis*, to hold which this house was specially built. It is the largest example in Europe, though even here only a couple of yards or so in height from where the branches spring, and with the exception of the plant at the late Mrs. Lawrence's, is believed to be the only one that has yet bloomed in England. Nothing, said Mr. Taplin, could exceed the gorgeousness of its appearance early in the spring of the present year, when thirty-two great racemes, a yard in length, of red and yellow flowers, were suspended among the enormous pinnate leaves. The young leaves have a peculiar brown tinge, and hang down as if half dead, reminding us in the former character of the young leaves of the Brownias, which, unlike these, however, stand erect.

In the next house is a capital collection of such rarities as the Arnotto Tree (*Bixa orellana*), and the Ebony Tree, *Diospyros ebenum*. The plants are not large, but serve their purpose perfectly well. *Ficus elastica*, on the other hand, is almost rampant: a noble plant truly is this, growing 5 or 6 feet in a single season. There is a fine young specimen, also, of the Upas tree, *Antiaris toxicaria*, and one of that very elegant-leaved ally of the Nettles, though without their stings—the Artanthe. The blade of the leaf of this plant resembles that of the Elm, in coming down further upon one side of the petiole than it does upon the other. Many plants show the same thing in some degree, but there is none, perhaps, in which it is so noticeable as in these two. Elms, however, are by no means constant in the obliquity of their leaves, examples being often met with in which the base is quite symmetrical, while others, on the contrary, have a bare stem of half an inch or more. The herbaceous plants in this house include several of those pretty little curiosities the *Peperomias*, with minute green flowers, disposed in long and slender spikes that exactly resemble the tails of mice or other diminutive quadrupeds. The Artanthe produces its blackish green flowers in a spike of similar figure. Quite as interesting is the Nardoo-plant, now becoming common, and so quaintly like an *Oxalis* with quaternate leaves.

Next into that glorious flower-palace, the Victoria-house. The first time we entered it was by the light of the full moon, which, shining upon the water, and the great oval leaves, and the one huge white blossom in the midst, made a fairy scene of it not soon to be forgotten. This year the Victoria has done remarkably well at Chatsworth. At the end of September there were no less than seventeen full-grown leaves afloat, and in one part of the tank they were becoming so crowded as to require no thinning. The flower of the Victoria opens in the evening, and is fragrant for some time after expansion. The next day the fragrance is less powerful, but the loss of odour is compensated by the increasing beauty, which attains its maximum on the second evening and then declines. Only one blossom is seen in perfection at once, but there is a long-continued succession of them. The contrast this noble plant presents with its regal relative the *Nelumbium speciosum* is most



imposing; the one, horizontal and floating on the water; the other, lifting its magnificent shields to the height of many feet—great flat green disks poised, as it were, upon reeds. The strange and foreign air of the latter is greatly intensified by the capsules, which are like broad cones with the bottom upwards, and are excavated all over the flattened surface. Seeds have several times been ripened at Chatsworth, but as a rule they are prone to fail. Around a plant of such history as the *Nelumbium* there clings quite a fascination. Figured in one kind of art or another upon the ancient monuments of Egypt and India, the sight of the living individual carries the mind to the days of the building of the Pyramids. Looking at it, we seem transferred from modern to primæval times, and it wants but a mental step or two, and we stand in imagination among *Sigillarias* and *Lepidodendra*.

Around the tank that holds the *Victoria*, which, by the way, first flowered as regards Europe in this garden, there are many capital plants—not that they are uncommon ones, but the condition is so fine. The *Papyrus*, for instance, owing to the abundant supply of moisture and the freedom with which it can grow, has grand rhizomes resembling those of the English *Acorus calamus*; while barely at arm's length is *Coix lachryma* hanging out plenty of those strange grey fruits, which in due time are to seem beads made of lilac enamel. In one corner is a great mass of that rare and striking plant, the *Thalia dealbata*. Petioles 5 feet long support great oval leaves, and higher still above the surface of the soil are the racemes of rather inconspicuous purple flowers, made, however, eminently remarkable by the whole of the exterior portion of the inflorescence being covered with white meal, that rubs off with the slightest touch. The student of flower-structure, who thinks he has obtained all he needs to learn from the dissection of a Primrose or a Violet, should obtain, when he has a chance, a blossom of a *Thalia* or some such plant. Orchids, with all their quaintness, are plain English compared with the *Thalia*, and the educational value is, of course, great in proportion. A *Testudinaria*, with a huge irregularly conical rhizome nearly 4 feet high in the middle, and surmounted by a bush of green shoots, must not be forgotten; nor yet some pretty plants of *Russelia juncea*, resembling juvenile *Casuarinas*, excepting that some of the younger branches are crowded with little ovate leaves that are mostly disposed in whorls of three. The Mango, the Guava, the *Cherimoya*, *Ilex paraguensis*, *Jambosa vulgaris*, &c., are here as a matter of course, and mostly exuberant in foliage.

A delightful walk of twenty minutes through the park brings the visitor to the entrance-gates of the Hall. For beauty this park cannot be excelled, the ground being everywhere agreeably undulated, and the extensive area enclosed in the most picturesque manner by gently rising hills. Every portion is well studded with trees, a large number of them fit subjects for the artist; and the herds of dappled deer give that exciting sense of life which is so agreeable an adjunct to, if not an essential element in, the sense of the beautiful. Before proceeding to the grand conservatory, the visitor is led through the *Camellia-house*, and under and along the glazed trellises that form a sort of botanical and floricultural cloisters. In the latter all is good. *Judigofera tinctoria*, with large pinnate leaves, and dense racemes of pretty pale pink flowers; *Schinus Mulli* (not molle, as often improperly written), again with neat pinnate leaves; *Mimosa prostrata*, the bean-ideal of an airy climber; and *Camellia reticulata*, 20 feet high, are but a few of the gratifying ornaments here associated. This *Camellia* is a species seen very seldom, yet the very plant for those who like a large flower, the scarlet blossom, which is not very double, being often a foot across! Shaddock trees, loaded with green fruit, are seen every here and there, being grown for the purpose of making marmalade of the produce. What a strange extension of meaning that word "marmalade" has acquired with us! Properly and originally, a preserve made from the Quince marmelos, the Bitter Apple, first it was passed on to the bitter conserve made of the peel of Seville Oranges; and now in many a shop it is the appellation of a sweet yellow pulp, called facetiously "Orange marmalade," but in reality manufactured out of Carrots! One of the prettiest plants in this department just now is *Solanum capsicastrum*, trained against the walls, and absolutely loaded with its scarlet fruit, no doubt through the influence of the kindly atmosphere provided for the *Camellias*. It is a plant difficult to keep free from green fly and red spider; here, as managed by Mr. Taplin, it is perfectly clean.

On the way hence towards the conservatory through the

grounds, the eye is caught by many things—a tree of *Hippophaë rhamnoides*, for instance, willow-like, and 25 feet high. After the manner of the White Poplar and many other trees, it sends out long underground suckers, which emerge from the soil at a distance of 30 or 40 feet. The individual here referred to is a male, therefore not embellished in autumn with those crowded masses of orange-coloured berries that render the female so conspicuous. Conifers are plentiful, and in many cases very striking. How oddly the cones of *Pinus Banksiana* cling to the branches! After enduring the rigours of two or three winters they seem to become a part of the branch, standing upon it like woody excrescences, or half consolidated with the stem, like the fruits of some of those outlandish Australian shrubs—*Melaleucas* to wit, that seem indisposed ever to quit their birthplace. On the grass are innumerable shrubs and small trees. Once, it is said, the arboretum was one of the most complete in the country; circumstances, however, and an inhospitable climate—for in winter it is often very trying—have considerably interfered with the maintenance of its ancient character. Casually examining a *Caragana*, I noticed that the spines are the extremities of the central stalks of pinnate leaves, the thorns holding the same position that tendrils do in *Vetches*. This is very curious, and I think it must be nearly peculiar.

The conservatory is known too well to need a description. The Palms, though not many, are grand ones of their kind; while the Cycadaceous plants, the *Musas*, and the *Furcraas*, hold our gaze as if by enchantment. Then there is the grand rockery for the Ferns, 20 feet high, with a tasteful intermixture of *Begonias* and "cool-culture" Orchids. *Aracearia brasiliensis* touches the roof with its head, and hangs down branches that we may handle, so near do they come to the ground. *Linum flavum* forms great bushes 4 feet high, and in its season bears thousands of flowers; and to stop somewhere, for stop I must, lastly there are noble plants of *Dieborizandra* with purple-violet spikes. Dr. Lindley, in the "Vegetable Kingdom," says of the *Commelinaceæ*, to which order this plant belongs, "Sepals herbaceous," and "some of the stamens deformed," giving us plainly to understand that these are absolute and universal characters. In *Dieborizandra*, however, the sepals are petaloid, violet externally, and white on the inside, and the six stamens are all perfect; and in *Tradescantia*, the commonest species of the order, the stamens are again all perfect. It would not be worth pointing out only that with many similar statements (that, for instance, of *Saracenias* having a hinged lip to the pitcher), for some reason that does not appear, the error is made a standard one by being continued in one edition after another. So much for "authority." One other plant I must mention, and I have done—*Cadia*, or, as it was formerly called, *Spandonea*, *tamarindifolia*. The foliage is strikingly like that of the true *Tamarind*. The solitary and axillary blossoms are not unlike a small *Fritillary*, an inch in length, pendulous, and dull pink.—LEO.

### THE CYCLAMEN WHEN AT HOME.

HAVING cultivated *Cyclamens* for many years with varied success, I have read with great interest the remarks of Mr. Abbey, the more so because I have always felt that there was some peculiarity in the natural habit of the plant, which required attention to insure a more certain success in flowering the plants than usually falls to the lot of amateurs, myself amongst the rest; and because one season I might have a fair show of bloom, and the following one, with the same care and treatment, I could not obtain a flower, I felt that my *Cyclamens* wanted something that they did not get. As a tour in the spring of the present year through Sicily, and afterwards through Palestine, Syria, and Turkey, gave me a fair opportunity of seeing the *Cyclamen* "at home," I made a few notes which I venture to send for the perusal of Mr. Abbey and your readers.

1st. Although I searched diligently, I never could find a *Cyclamen* growing with the bulb or corm exposed or uncovered.

2nd. I never could find the plant growing on a level surface, or in an open plain, away from the shade of a bank, rocks, or trees.

3rd. The places where it grew in the greatest profusion and perfection were dry elevated banks, partially shaded by bushes and trees, amongst rocks and stones, and invariably with the bulbs buried 4 or 6 inches deep in loose friable soil and decayed leaves.

I was not able during the whole of my tour to find one un-



covered or exposed eorm, and I returned home with the conviction that I might as well expect to find a bank of wild Bluebells or Snowdrops with their roots or bulbs exposed flowering luxuriantly. There is, indeed, great similarity in the most favourite locality of the Cyclamen's home in Sicily to the coppice banks in which our Bluebell delights to live. I recollect, however, finding a large Cyclamen eorm growing in the cleft of a rock at Solomon's Pools near Jerusalem, but even it had its sheltering bush, and was covered with decayed leaf mould. I therefore vent ure to suggest that the proper place to grow Cyclamens according to their natural habit must be on a sloping bank, or something resembling a miniature rockery, with clefts in the drainage, into which the eorms will grow and adapt their shape to the crevices, and with 5 inches deep of loose friable mould above them, through which they can send their leaves and flower-stems.

The smallest cultivator may make an appropriate place for ten or twelve Cyclamens in a large seed-pan. Let him build up a cone of drainage in the centre, and upon it a hard bed of toil for the eorms, putting in a few pieces of stones to support the loose open soil of the little mound above the eorms, imitating as closely as possible their natural localities.—W. X. W.

### CHANNEL ISLANDS ORCHARD-HOUSES.

I RESUME my notice on the periods of the ripening of Peaches and Nectarines, by stating my experience in the case of those which ripened during September and October.

Early in September Stanwick Nectarine was abundant; I have some large trees of it, and none of the fruit cracked this year, but neither in size nor in flavour were they up to the mark. There were also Téton de Venus Peach, like Chancellor and Boudin, all ugly in name, and not good enough now; also, Walburton Admirable, over-praised, and too shy a bearer for small houses. Then seedling Peaches came in, which will one day be famous.

The second week ripened Desse Tardive, an old kind, ripening in France early in October in warm localities. It has had its day, but is useful to raise new sorts from. Shanghai, one cannot well decide on, but it is not prolific enough for small houses. Kensington is a Peach which seems to require the open air, but when there it was too tender, and was always mildewed, so it is practically useless. A few Nectarines still remain, also a fine new American Peach given to me by Mr. Rivers. It is called Heath's Northern Free, and much like Noblesse. It will be a gain for our house. What my good friend will report on it I do not know yet, but he is so very particular, that the public may best learn from him.

September, then, on the whole is not here a favourable month for the houses—that is, their first glory is over, and Grapes are so abundant now that we hardly miss Peaches.

The first week of October brought in a small but very useful class of Peaches. The first and choicest is Pavie (clingstone) de Tonneux. This noble Peach eats as hard as an Apple, but when placed in the best situation becomes sugary, and has a rich flavour. These clingstone Peaches are more valued abroad than here; they are, nevertheless, very delicious to true Peach fanciers. Another, which ripened here later, was Mitchell's Mammoth, which was also good, paler in colour, and looking more like a freestone; but whatever is fairly ripe by the middle of October should be accepted without severe criticism.

Thomas's Late, an American, and first fruited here three years ago, is a good Peach. It is very prolific, above the middle size, and has a juicy flesh, with a brisk flavour.

Tecumseh, a new Georgian, sent me from Sawbridgeworth this year, will be a gain. It is above the middle size, of a pale straw, mottled feebly on the sunny side with crimson dots, round, with a distinct suture, flesh juicy; a freestone. The leaves have kidney-shaped glands. Ripe about the middle of the month. What pleasure to the amateur to fruit a Peach, and to describe it.

Tardive d'Espagne, one of my oldest trees is always good for the season. It is said to be only eatable at Angers, when the season is very warm. We thus see that orchard-houses augment our ripening power, far from diminishing it, as some pretend. This Spanish Peach is a perfect yellow variety, very pointed, and highly coloured like an Aprieot, juicy, large, and a freestone. Showy for dessert, and makes an acceptable present to a friend at this season.

Baldwin's Late, first fruited here in 1863, is our last. Very prolific, but difficult to swell and soften. In fact, had we fire

heat at command we should now urge it on, and so incur the censure of those critics who argue that lean-to's are not orchard-houses, and that artificial heat of the most supplementary character vitiates the claim of a span-roof to be ranked as an orchard-house also. What about half-spans?

We have had an abundant supply of Peaches since the middle of July, without fire heat. On one day we gathered four hundred, one-half of which went to Covent Garden, one-quarter was disposed of as presents, and the rest gave much labour to get rid of.

It might interest some of your readers who thought it worth while to come to see me this year, to state that our new lean-to will shortly be finished; and I mention this chiefly for the sake of saying, that I do not agree with those who in any way encumber the glass of their houses. The whole roof should be left perfectly clear. Those who think that I find potted trees unmanageable, must have misunderstood me, for there is really no difficulty about it. I have a tree eight or nine years potted, which bears regularly about fifty Nectarines, and it is not 6 feet high, and the stem is not at all large.

I have long had seventeen transverse espaliers, and have had less fruit on them in proportion than on bush trees in pots. Not, however, that these espaliers are not good in their proper place, and well-known means to an end, but good as they are I shall not choose them for the new house. Visitors here, almost as a rule, prefer the spiral cordon, and it is certainly most beautiful and profitable. Two trees are twisted round three wires, and wind upwards to the glass. The wires may be at any distance apart; of course, the farther from each other the longer is the twist of the cordon trees. I place two trees together, or even three, because otherwise the angle of the ascent would be too great. Now, I propose having immense trees ten years trained as cordons, to coil them round wires, leaving the centre open for, say 3 feet. Sun and air freely play round these cordons, and I know, from many years' experience, that they bear immensely. During the blossoming period nothing can surpass them in regular beauty. I should, therefore, imagine that fifty or sixty of these in a double row, would look rather nice in the spring; so with deference to others of greater experience, I shall choose this way for the new lean-to. As to encumbering the glass in any way, it is not to be thought of; and as to any other way of treating the shoots except by very close pruning, it is a mere waste of time in orchard-houses. The comparison of the produce of espaliers under the old system, and of spiral cordons on the new, would speedily dissipate any doubts. Our back wall is to be covered with diagonal cordons, now fine trees, which are to be removed from the old house to the new one. The wall of this last being much higher, these cordons will be single, at 16 inches interval. These diagonal cordons were first applied to orchard-houses in my own, and I think that this new wall will not be easily surpassed, if equalled, by any other style.—T. C. BRÉHAUT, *Richmond House, Guernsey.*

### GRAPES IN AN ORCHARD-HOUSE.

THE Muscat Hamburg has succeeded here (Titchhurst, Sussex) admirably this year in a cold vinery; it is not grafted. The bunches are large, very compact, and of good shape; the berries are also large, very black, with perfect bloom, thoroughly ripe, and the flavour high and excellent. The crop is large. This is the second year of bearing; the first year the berries were small, and some never ripened, and the bunches were long and loose. I had not a good opinion of the Grape excepting as to flavour. This Vine is in an orchard-house, where all the Vines were turned out for the winter; the chief care being bestowed on the orchard-house trees. About the end of April the Vines were taken in, the Peaches and Nectarines being sufficiently advanced not to be injured by the shade of the Vines. The whole roof, 72 feet long by 36 span, the house being 30 feet wide, is now covered with Grapes of the finest description.

The orchard-house trees are also in the best condition for next season. The Golden Hamburg also did very well this season, the berries being very large and the bunches compact; but it is not a favourite with me, the flavour is very sweet, but rain, if the roots are outside, causes the Grapes to decay in a few days.—CONSTANT READER.

MR. FLEMING'S NEW BEDDING GERANIUMS.—The seedling Geraniums exhibited by Mr. Fleming, of Cliveden, before the Floral Committee of the Royal Horticultural Society during



the past summer, and that received first-class certificates, have we are glad to hear, passed into the hands of Mr. Turner, of Slough, who will, no doubt, soon increase their number sufficiently to be able to supply them to the public. The D. wagneri Duchess of Sutherland is the best Nosegay strain of Donald Beaton, but different in colour from any other of that class, having also trusses larger than Stella. Cliveden Rose is also of a most brilliant tint. All of them are more or less different in colour from any other varieties in this class, and will prove great acquisitions for the decoration of the flower garden.

### A PLEA FOR ATHYRIUMS.

Few countries have a higher appreciation of ancient lineage than the English; mere mushroom rank, apart from ancient birth, is simply a higher form of vulgarity, and meets with but small consideration excepting from the lower varieties of its own species. But wisdom has been ever accorded to length of days, and the accumulated wisdom of many generations is supposed to dwell with certain inhabitants of particular places. For myself, being an inhabitant of the British Isles, I am disposed to agree with this idiosyncrasy, when carried out to a fair construction. I am ready to defer to ancient lineage, and quite willing to give up the claims to a patient hearing I am about to advance, should one of older family than myself speak.

It will be, perhaps, difficult for me to adapt the language of my race to the modern human tongue, which I consider in itself poor and barely sufficient for the wants of the scattered genus; still it is all they are acquainted with, so I must reduce my faculties to the human level. I am, as I said, an inhabitant of the British Isles, but my people exist over the entire known and (humanly speaking) unknown world. A few thousand years more or less are nothing to me. When the first human creature stepped on British land I was here to welcome him. One of my family saw Romulus in Rome, another greeted Nimrod on the plains of Assyria. But why speak of so recent a period, when I have lived through Tertiary, Cretaceous, Oolitic, Triassic, Permian, and Carboniferous, some of my ancestors claiming acquaintance even with the Old Red Sandstone and Silurian,—but I myself consider this going a little too far. Should, however, our claims to antiquity be disputed, we have only to point to our burial grounds (millions of our race having been embalmed in such fashion as would sorely puzzle man to imitate), and they sufficiently testify to the truth of my assertion.

During all these years we have been allowed to manage our families in our own way; and I think I may fairly say we have earned general respect from our arrangements. I cannot help laughing at the poor attempts I see human creatures make at imitating us. Alas! they know but little about it; and had I not a personal grievance, becoming too great for acrogenical, not to say foliacea-kish endurance, I should content myself with smiling and waiting.

I wish to stand well with the whole world—I own it is a weakness, but I do think it a trying circumstance that these human creatures will assign to me a family so overgrown and so constantly increasing that I fairly give up all attempt at managing them. Moreover, they really do not belong to me; they are many of them only neighbours' children, who, their tastes and habits of life assimilating with mine, have taken up their residence near me. I am not ashamed of them, they are near relations, and do me much credit; but, for all that, they are far too numerous for me to look after them as I could wish. Besides, I have heard rumours of a grand International Exhibition, when I expect a great many foreigners of distinction nearly connected with my family, and I shall be grieved for them to be able to throw out skits at England, as I greatly fear they will, and all through a misunderstanding which has arisen between ourselves and the biped animals of the Recent period. Why should I have such an overgrown family, when so many of my relations have none? Why should England have not more, if so many as, forty-four species of Ferns, when there are two thousand in the world?

Of course if there were only nineteen in Britain that would be sufficient answer, but I ask, Are there no more? Who decides the point? Who decided that my cousin *Asplenium trichomanes* should be one species and *viride* another? I see no difference to speak of, saving that one is green and the other black in the rachis. Our friend Mr. Moore says, describing *A. trichomanes*, “rachis not winged, black throughout; frond

normal; pinnules entire or crenate;” and of *A. viride* Mr. Moore only says “rachis not winged, green above.”

I have no jealousy in my composition, but I do think if my aunt *Asplenium* is to settle *viride* in a house of her own, that my child *odontomanes* deserves one quite as much. I do not find fault with my aunt, but I do not forget that we had the same grandmother; and my mother *Athyrium* and aunt *Asplenium* were considered to have so strong a family likeness that they were often taken for each other. One may say, indeed, it was more the shape of their dress than any graver distinction that separated them, my mother's petticoat being fringed instead of plain; and I do think it a little hard that while my cousins *Asplenium fontanum*, *lanceolatum*, *adiantum-nigrum*, *marinum*, *trichomanes*, *viride*, *ruta-muraria*, *germanicum*, and *septentrionale* should have little or nothing of family cares, I should have nearly a hundred unruly children apportioned to me. They are none of mine. I disclaim them. Let *odontomanes* set up housekeeping for herself—she and her already large family are sufficient for one house; let her be *Athyrium* No. 2. No one will mistake her for me, when once she is settled. I found one of her children in a ditch the other day, and very pretty she was. Her frond was about 15 inches from apex to root, of an elongated lanceolate shape, the pinnae curving crescent-wise to the apex of the frond, the pinnules connected to the secondary rachis by a very visible leafy margin, each pinnule so deeply notched or toothed as to render them almost pinnatifid. Does this answer to the description of my normal state? Then again in the species of *odontomanes*, in fronds both young and old, the indusium is singularly absent or out of sight, and, when visible, it is more kidney-shaped than oblong. *Odontomanes* has already many varieties, some stumpy with ovate fronds, some much forked, some 2 feet and upwards. Then there is *rhatium* with her red-legged variety, quite as worthy of distinction, for all I can see, as black-legged *trichomanes*. And *davallioides*?—why, one of her pinnae is as fine as many a frond, and as minutely divided. Yes, *davallioides* must be a species too.

Something must be done for me before the International, but who will do it? I appeal to our friends Dr. Hooker, Mr. Moore, and Mr. Newman. Cannot they, in consideration of my ancient lineage and high birth, provide more suitable accommodation for the numerous family of—*FILIX-FEMINA*?

### CULTURE OF THE MANGO, MANGOSTEEN, AND OTHER TROPICAL FRUITS.

It has often surprised me that persons, whose means enable them to maintain continued fires in bothouses, should waste their energies in producing at Christmas tasteless *Asparagus* or miserable *Kidney Beans*, while they might, with no more trouble, and not much more expense, enjoy the luxury of tropical fruit. Surely it is more reasonable to employ heat for the purpose of producing things which cannot be grown without it, than to waste it upon articles which may be had of better quality, though somewhat later, in every cottage garden. Holding these views, I was much pleased at seeing the letter of “J. H.” in page 340 of your Journal, and hope that its perusal may stimulate those who are able to cultivate the Mango.

There are, however, in that letter two points on which I would make an observation. First, “J. H.” most liberally offers a cutting; but do Mangoes grow from cuttings? I have never heard of their being raised except from seed, and grafted when needful. However, there would not be much difficulty in getting from the West Indies Mango stones packed in damp earth. These would serve as stocks upon which “J. H.’s” cuttings could be grafted. Secondly, the high winter temperature which “J. H.” has so successfully employed cannot, I think, be necessary. I remember reading in some travels in the north-west of India that the party encamped near a Mango tree, and that in the morning water froze. Again: I understand that Mangos grow at Saladanpur, which, in addition to considerable elevation above the sea, is in latitude 30°; they grow also in Madeira.

Bombay is considered the head-quarters of the Mango. Possibly grafted trees of the Alfonso and other choice varieties might be procurable from thence. At the Crystal Palace two healthy Mango trees may be seen; they flower freely, but do not set their fruit.

If I mistake not, “J. H.” is conversant with many other tropical fruits besides the Mango; if so, I should feel obliged

by his stating his experience as to Cattley's Guava. Is it equal in quality to the ordinary Guava?—G. S.

FEELING much interested in tropical fruit culture, I am glad to see an article on the subject. From what your correspondent "J. H." states last week we might imagine that fruiting the Mangosteen was an annual circumstance. I was not aware that it had been fruited more than once in this country, and that once at Sion House, and from the appearance of the plants and general report I considered it rather a difficult subject to manage. I should be obliged by being informed where plants can be obtained; also, if your correspondent found it necessary to employ bottom heat, and to what amount.—T. N.

[I can assure "T. N.," in answer to his letter, that it is quite a mistaken idea to suppose the Mangosteen cannot be reared in England without great difficulty. I have seen it growing at one or two places, and many years ago I saw a tree at Allestree, near Derby, covered with blossom, and which afterwards, I believe, bore some fruit. The chief point seems to be procuring a good variety, as many sorts, almost the same in appearance, will neither flower nor fruit in England. I procured my trees direct from Madras (by far the best way), and although I have not now one of my own, I believe I can obtain a plant for "T. N." if he requires it.

The tree at Sion House, to which "T. N." alludes, I only saw once, and then it was not in flower, but it appeared to me remarkably like *Garcinia Mangostana celebica*, a sort which will not fruit in England.

I obtained fruit for three successive years (1859-60-61) from one small tree, and I am certain that with good management the tree would bear annually.

I forgot to mention in my article on the subject, that while growing, the Mangosteen should have a brisk bottom heat of from 90° to 100°.—J. H.]

## DEATH OF DR. LINDLEY.

IN rapid succession to that of Sir William Jackson Hooker, we have now to announce the death of Dr. Lindley, which occurred at his house, Acton Green, on the morning of Wednesday last, the 1st of November. For a considerable time past Dr. Lindley has been wholly incapacitated from following his ordinary pursuits, or of engaging in any occupation that required mental application. For some years he had been afflicted with a gradual softening of the brain, and this disease had made so much progress that at the time of his death, which resulted in apoplexy, he had become, so to speak, dead to the world. And thus expired an intellect much above the common order, a sacrifice to its own untiring and unceasing toil.

JOHN LINDLEY was born February 5th, 1793, at Catton, near Norwich, which may now be styled the City of Botanists, for there were born three of England's greatest botanists—Sir James Edward Smith, Sir William Jackson Hooker, and Dr. John Lindley. His father was a nurseryman, but being unsuccessful in business, he subsequently undertook the direction of the Bristol Nurseries of Miller & Sweet, at that time one of the most extensive and prosperous establishments in the kingdom. He was the author of a very useful work, which was edited by his son, entitled "A Guide to the Orchard and Kitchen Garden," but it appeared at a time when the present taste for garden literature was as yet undeveloped, and when what is now called gardening was confined more to the establishments of the higher classes, who were themselves not gardeners, and consequently that excellent work never met with the encouragement it merited, and never reached a second edition. Trained as young Lindley necessarily was among plants and flowers, and being surrounded by so many botanical associations and associates, it is not to be wondered at that an intellect like his should soar above and beyond the ordinary ideas of a nurseryman, and see something in the objects with which he was surrounded of greater interest than that which was connected with their commercial value. We find, therefore, that instead of being a nurseryman he was bent on becoming a botanist, for so early as 1819 he published a translation of Richard's "Analyse des Fruits;" and in his twenty-first year he produced his "Rosarum Monographia," the preparation of which must have occupied him a long time previously, for the excellent plates are all from his own drawings, and the study of the subject must necessarily have engaged his

attention at a period when he was yet a mere youth. In the following year Mr. Lindley published "Digitalium Monographia," and about this time he became garden clerk at the Chiswick Garden of the Horticultural Society, which had then been newly formed; and in this capacity he remained till the retirement of Mr. Sabine in 1830, when Mr. Bentham was chosen Secretary and Mr. Lindley was appointed the Assistant Secretary. In this capacity he remained till his retirement in 1858; and, as a recognition of his long services to the Society he was chosen secretary—an honorary appointment he retained till 1863. About the time he became connected with the Horticultural Society, he was engaged by the late Mr. Loudon in the compilation of the "Encyclopedia of Plants," which occupied him for a period of seven years, and which was completed in 1829.

During the time he acted as Assistant Secretary to the Horticultural Society he held several other appointments. In 1826 he succeeded Mr. Bellenker as Editor of the "Botanical Register," established by Sydenham Edwards in 1815; and the botanical attainments he exhibited in the management of this and the execution of his other works recommended him to the botanical chair of University College, London, where, in the end of April, 1829, he delivered his introductory lecture as Professor of Botany in that institution. This appointment he held for twenty-nine years; and it has been remarked by one of his old pupils, "I can truly say, as a lecturer he was one of the best teachers I ever heard. Free and conversational in his manner, his matter was excellent and methodically arranged. I entered his class with little knowledge of, and less liking for, botany, and left it, having taken his gold medal at University College, having amongst my competitors Dr. W. B. Carpenter, Dr. Lankester, Dr. Jenner, &c.," and I maintained the superiority of his teaching by taking the silver botanical medal of the Apothecaries' Company open to the competition of all the students in England.

In his introductory lecture he announced his intention of teaching the natural system of botany, at that time unpopular among those who had been educated in the Linnean school: to this he rigidly adhered. We question, however, whether so much of the credit usually attributed to Dr. Lindley as the fosterer of the natural system in this country is not unduly rendered. He encouraged the study of it in preference to that of the Linnean, and in all his works on the subject he adhered to that system. Still it cannot be forgotten that, not content with the natural systems which Jussieu and De Candolle originated, he was always propounding some theory of his own, which was never fixed, but which at uncertain intervals was doomed to be supplanted by another idea that seemed to find greater favour in the mind of the author. Students who were willing to adopt the natural system were thus, by Dr. Lindley's teaching, kept in a state of constant uncertainty. In his "Synopsis of the British Flora," published in 1829, he there adopts the arrangement of De Candolle, a system which has received universal acceptance from every botanist in this country and America; but in 1830 appeared his first elementary work on the natural system, entitled "An Introduction to the Natural System of Botany." Instead of following the systems of Jussieu or De Candolle, he adopted that of the latter, ignoring the apetalous classes of both, and throwing them in with the polypetalous class. This, as a consequence, destroyed any ideas of sequence, or even of arrangement, that may have been formed by the student who had just mastered either of the other systems, and confused those of others who were but on the threshold of the science.

In 1833 Dr. Lindley published his "Nixus Plantarum," in which he restored the apetalous group, which three years previously he abolished, and ignored altogether the hypogynous and perigynous structures, which form such distinct characters in the other systems; retaining only the epigynous, which he made to represent a subordinate section, and adopting the character of the albumen for the primary divisions. In this case the affinities and sequence of the orders were again entirely disturbed. Three years later appeared the second edition of "A Natural System of Botany," in which the arrangement set forth in the "Nixus" was generally adhered to, but differed in some of the details, and this form he introduced in the subject "Botany," published by the Society for the Diffusion of Useful Knowledge in 1838, and which was intended as a book of instruction for the masses; but there is not even a reference in it to the system of De Candolle, which at the time was being taught by Hooker in Glasgow, Graham in Edinburgh, and Henslow in Cambridge, and which is that now generally accepted and taught in every institution of the country.



In 1845 appeared "The Vegetable Kingdom," with a wholly new arrangement, differing entirely from all the others he had previously been labouring to introduce. In this he restores the great hypogynous, perigynous, epigynous, and clinous divisions of Jussieu, and suppresses the apetalous, which he distributes among the other divisions. This is, undoubtedly, by far the best scheme he has ever proposed, and had he introduced such a system in 1833, instead of that set forth in the "Nixus," he might have lived to see it adopted in botanical education as a formidable rival to that of De Candolle. But this last and certainly his best effort, was the result of a gradual building up of material prepared by others. It was first of all a recurrence to the Jussieuan and Candolleian systems, with the adoption of such views as had previously been enunciated by Bartling, Endlicher, Martins, Brongniart, and others, aided by the labours of our own countrymen, the Hookers, Bentham, Griffith, Gardner, Miers, Wight, and many more, but it came too late for adoption.

It is not, however, with the view of drawing attention to what may be supposed Dr. Lindley's uncertain ideas with regard to classification that we have directed attention to these matters, but rather to show that an opinion we have often heard expressed, to the effect that it is to him we are indebted in this country for the adoption of the natural system as it is now taught, is not a correct one; and that if students in botany had relied for guidance on the works of Dr. Lindley alone, they must have experienced that feeling of insecurity that one has when in a strange country he places himself under a guide who hesitates at every deviation of the beaten track.

In 1832, Mr. Lindley received from the University of Munich the honorary degree of "Doctor of Philosophy," and henceforth he has been known as Dr. Lindley. In 1834 he published "Ladies' Botany," a work in two volumes, and written in a familiar and popular style in the form of letters; but whether the style of the letters did not suit their taste, or the subject their capacity, or whether it was that what is suitable for gentlemen is equally so for ladies, the work proved a failure, and has long since fallen into obscurity. He was a voluminous writer, and besides those of his works to which we have already referred, and numerous others of smaller character, he was the author of an "Introduction to Botany," which passed through four editions; "The Genera and Species of Orchidaceous Plants;" "Seritum Orchidaceum;" "School Botany;" "Elements of Botany," &c.; and, in conjunction with Mr. Hutton, "The Fossil Flora of Great Britain." His greatest and best works are "The Vegetable Kingdom," already referred to, and "The Theory of Horticulture," the first edition of which appeared in 1849, and the second under the title of "The Theory and Practice of Horticulture," in 1855. In 1841 he united in establishing the *Gardeners' Chronicle*, of which he remained the Editor till little more than a month ago, when he was succeeded in that office by Dr. M. T. Masters.

Dr. Lindley was a Fellow of the Royal and Linnean Societies, and a member of most of the learned societies of Europe. He was awarded the gold medal of the Royal Society, and two years ago his friends presented him with a piece of plate in the form of a candelabrum as a testimony of their regard.

Dr. Lindley was not what might be termed a great botanist. He raised himself to a degree of eminence, not so much as a botanist as a journalist, and by his connection with the Horticultural Society. With the exception of his works on the Orchidaceae, and the "Vegetable Kingdom," he has not contributed much to the store of botanical knowledge; and when we compare what he has done for the extension and encouragement of the science with the labours of Sir William Hooker, or his contributions to it with those of Mr. Bentham and Dr. Hooker, the latter of whom is a very much younger man, we are not inclined to concede to him so high a position in the rank of botanists. What he might have attained if he had devoted that time to botany which he gave to journalism, can, of course, only be left to conjecture. He was a man of an extraordinary energy and activity of mind frequently amounting to impetuosity; yet he was no genius—he had no inventive power, no originality of thought. He never made a great discovery, or propounded principles that caused men to think out of the ordinary train of thought, or out of which great results came. He had not the philosophic mind of Darwin, or Mohl, or De Candolle, and many others. His name will not rank with those of Ray or Robert Brown. But although he came short of all those qualities he had great powers of generalization and adaptation, and he could so combine and apply the views of others as to render them practical and popular, as has been so well exemplified in "The Theory and Practice of Horticulture" and "The Vegetable Kingdom." As

a teacher, therefore, he was not only well adapted, but successful. His classes at one time were well attended; and it spoke much in his favour that his students frequently numbered as many as two hundred, the greater number of whom were purely voluntary, and not compelled by any college curriculum to attend on the course. Still, as a teacher he never attained the position of Sir William Hooker, Professor Henslow, or Edward Forbes.

In his manner there was a certain brusqueness and a want of courtesy that was frequently offensive, and a disregard of the feelings of others, while freely indulging his own; but these are traits which may now be referred to the nature of his malady, which, it would appear, had been steadily yet silently gathering over him.

He was buried yesterday in the new cemetery at Acton.

## TIME FOR PLANTING VINES IN COLD VINERY.

We have just completed a cold glass house, in which I purpose growing Vines. I have purchased some good strong plants in pots; but though the border is quite ready to receive the plants, my gardener advises their not being planted till next spring, say May. He insists that if then transferred from the pot to the border and cut back, they will make better growth than if planted now.

I cannot persuade myself that this can be, and shall be very much obliged by your opinion.—L.

[The gardener will succeed best with his own mode of operation. There would be but little difference resulting from the time of planting the Vines. In a cold wet border the roots will do little in winter, but we should prefer planting before May. With a good fresh border, and in good order, we would prefer planting now, spreading out the roots regularly, and covering the ground over the roots with warm litter, so as to keep the roots moving slowly all the winter. Then we would cut back the plants to the necessary height in spring, rubbing out all the buds except one or two intended to take the growth.]

If this care is not taken after planting we would keep the pots with the roots mulched up all the winter, and plant early in the spring before the buds began to move. We think this better in a cold house than planting after the Vine has started.]

## PROLIFIC POTATOES.

EARLY in last March I planted a plot of ground with Lapstone and Dalmahoy Potatoes; the piece of land is 7 yards across, and was formed into drills 3 feet apart. The sets were put in in the usual way about 1 foot apart in the row. The land, a stiff loam, had been well limed in the previous autumn; it also received a good dressing of stableyard manure at the time of planting. The Lapstones when taken up in September were a little diseased, and yielded on an average 62 lbs. of useable tubers per row; the Dalmahoy were taken up at the same time, were entirely free from the disease, and yielded fully 10 lbs. per row more. One row of this kind planted with large whole sets yielded 89 lbs., and one large tuber cut into eleven sets produced 51 lbs. of large Potatoes. I have no doubt that the produce of all would have been considerably larger had not the growing season been so very dry. The Dalmahoy, though not a handsome Potato to look at, yet is an excellent sort when cooked, and the quality of a Potato ought to be in the eating of it, and not in its appearance when uncooked. From my own experience with this variety I think too much cannot be said in its praise. Where and by whom was this raised?—W. L.

SECOND CROP OF OUT-DOOR FIGS.—I picked on the 20th ult. a dozen and a half ripe Figs of the second crop in my garden here. This is the first time that I ever knew the second crop of Figs to ripen in this country, and I believe it to be a very rare occurrence, even in the most southern parts of England. I have, therefore, taken the liberty of mentioning it to you now. The Fig is of the Large White Genoa kind.—WILLIAM BERESFORD, Hampton Court.

## HEATING BY GAS.

For two winters I have found an oil lamp attached to one of the Waltonian cases has been sufficient to keep out the frost from a small greenhouse in the mild climate of the south of Devon. This, however, is a dirty and uncertain mode of heating it, the lamp burning low and going out early in the morn-

ing, and a stove being out of the question, from having no one to attend to it. Gas would be a never-failing source of warmth and would give no trouble; and, as there is round the water tank a chamber through which the hot air would pass before it entered the greenhouse, I should be glad to know if there would be any danger of its being hurtful to plants.—*EMILY.*

[A single jet of gas sufficient to heat a Waltenian case would not produce a quantity of fumes sufficient to injure the plants in the greenhouse, but the jets sufficient to heat the greenhouse would. For many years we heated a small vinery by a gas-stove, which is merely a small ornamental iron case, with a door, inclosing a ring of gas jets. From the top of the case proceeded an iron pipe which conveyed all the fumes into the open air. In another instance this pipe passed through the brickwork into a chimney.]

### CATTLEYA EXONIENSIS.

This magnificent Orchid has been in flower with me for the last three weeks, and is, I think, one of the finest of all Cattleyas, a free grower, and free-flowering. Its flowers are as large as a small bloom of its parent, *Lælia purpurata*, but better in form and colour than any of that species which I have seen, and the sepals and petals do not curl as in the parent. The plant which I have flowered differs a little from others that I have seen in flower—viz., the terminal half of the lip is of the deepest crimson purple, beautifully frilled with a white border; the lateral part of the lip is not frilled, but has a large purple margin, and a blotch of yellow in the centre, and behind that, in the throat, is cinnamon brown. The sepals and petals are of a delicate pink. I think the above ought to be in every collection. It is a seedling raised by Mr. Dominy, to whom we are indebted for many fine hybrid Orchids, but I think the above is the gem of them all.—*C. KEMMERY.*

### MY PLANTS,

#### AND HOW AND WHERE I FOUND THEM.—No. 12.

"Falling on my weary brain  
Like a fast-falling shower,  
The dreams of youth came back again,  
Low lisping of the summer rain,  
Dropping on the ripened grain,  
As once upon the flower.

"Visions of childhood! stay, oh stay!  
Ye were so sweet and wild!  
And distant voices seemed to say,  
It cannot be! They pass away;  
Other themes demand thy lay;  
Thou art no more a child!"

BETWEEN the counties of Essex and Suffolk runs a river, the very mention of whose name brings back to my mind slumbering visions of bygone times, childhood's days, those happy hours of pure enjoyment which come chiefly in the earlier part of our short lives, brief seasons of cloudless felicity, but which are so vividly remembered unto life's closing day. How tenaciously the memory clings to each well-remembered spot! how it conjures up the face of each merry companion of our sports and pastimes, the fishing excursions, rides on horseback, drives, walks, the haymaking-party, the visits to the gleaners in the corn fields, which, now cleared of their golden harvest, yet yield enough scattered ears to gladden the hearts of the poor. How hot the sun was! and how it poured its fervid rays upon that animated and eager party; as one of the workman said, "It didn't half shine." At such times I remember, one of our chief delights was to make our appearance amongst the gleaners, occasionally assisting to add to the scanty store of some poor decrepid old creature, who, already bowing down under the weight of eighty years' toil in this world of ours, yet persisted she could compete with her younger sisters in their laborious employment. Again, what a charm there was in distributing from a capacious basket those luscious Apples to the overheated little ones, receiving in return a full recompence from the bright and glistening eyes of the recipients. Then memory brings back days of sickness, when these same bonnie bairns, now grown into lads and lasses, sent their much-prized offerings to the chamber of sickness, in the shape of bouquets of wild flowers, or, perchance, such as their humble gardens afforded. Honeysuckle there was, all bathed in the early dew of the summer's morning, gathered as the lads went to their work in the hay fields, and left silently at the kitchen-door. No costly gift in after-years awoke keener pleasure in my breast than these thank-offerings from my village choir. Health

returned in time, and again my eyes were gladdened with a stroll in the garden, and to my astonishment, in my own particular border were springing into flower numerous plants of the Lily of the Valley (*Convallaria majalis*); in all stages of growth rose its beautiful pale-green leaves, protecting the snowy bells upon their elegant stalk—another proof of my children's love, for the roots were planted clandestinely in the early mornings some months before.

These simple and kindly thoughts made me, as a girl, a staunch defender of the poor. I regret that in advancing years these feelings were somewhat and necessarily modified, and one sighed for the unenlightened and simple belief which girlhood has in the goodness of the motives and actions of all around; yet is this belief still best kept in our relations with mankind in spite of occasional disappointments. To believe a motive pure and honourable may make a friend, whereas to doubt an intention certainly creates an enemy. Across my mind now comes a vision of our busy Sunday—certainly to us no day of rest. There was teaching in the village school, playing the organ, and teaching again, after the evening's service. Tired out we were, not from *ennui*, but from the incessant strain upon the mind, and the unavoidable talking. A quiet stroll, however, down to the river Stour refreshed us after our work. How cool were the breezes that blew across it on those hot and dusty evenings! On its banks in profusion grew the purple Loosestrife with its spike of reddish flowers, and close by its side the fragrant Meadow-Sweet (*Spiraea ulmaria*), with its white blossoms. There the Arrow-head, Bar Reeds, and Iris pseud-acorus put forth their varied beauties to the passer-by, and most beautiful of all the Flowering-Rush, whose umbels of rose-coloured flowers, we, as girls, all eagerly sought after at the peril of a ducking in the stream below. The pretty melancholy Forget-me-not, with its blue eyes, which speak to each heart more or less of love, and often of sadness and parting, grew on our river's banks in great luxuriance. The legend connected with the name of this flower awakens in our hearts a sympathetic feeling for the fate of the young lover who, sinking in the water, threw a handful of these flowers to his distracted mistress, uttering with his dying lips "Forget-me-not." In Germany this flower is used to deck the resting-place of the loved and lost. Ragged Robin, and the brown flowers of the Water Figwort, increased the beauties of our river bouquet; and now, perceiving the fog arising around us, we slowly wend our way along the wood side, taking a last look at the setting sun which is casting a glorious coronet of crimson light above the hills behind us. A light supper and to our chamber to seek that healthy sleep, which is so rich a gift, wafted on the bonnie country air. Priceless boon! how oft thou art the companion of the poor man's couch, and flyest the draperied chamber of the rich! No need have we, however, to woo thee, care has not yet stamped our young brows, and

"There is in the air  
A fragrance, like that of the beautiful garden  
Of Paradise, in the days that were!  
An odour of innocence and of prayer,  
And of love, and faith that never fails,  
Such as the fresh young heart exhales  
Before it begins to wither and harden!"

Such was our case: "Sleep, balmy sleep!" and fairy dreams blessed us all the night, and we were up early, busily preparing for a day on the river. Quickly we get over our breakfasts and pack our baskets of necessities, look well to our fishing gear, and with proud and bounding hearts take down with us a sail, which we have made for our boat, the effects of which we are to try for the first time on our winding stream, the numerous bends in whose banks, and the consequent changing of the sail from side to side, make it rather a hazardous affair. So much the better for young adventurers! Chattering and singing alternately, and making our boy carry the weightier part of our luggage, we arrive at a back-ditch in which our little craft is safely stowed away from the prying eyes of predatory barge-men. My brother piloting her into the river, we are soon seated; he and I take possession of the oars, and we are gently moving down stream. Oh, happy days of sunny memory! when, moored beneath the dark green Alders, we dropped our lines into the sparkling waters, and silently, and breathlessly watched for the bobbing of our floats, precursor of the triumphant landing of some unfortunate pike, perch, or roach, to be hereafter produced in a more enticing form upon the dinner table at the Hall. Every now and then the beautiful little kingfisher would dart from beneath the Alders, and securing his prey with the most perfect nonchalance, would make his meal upon a branch close by us; most likely he is discussing



the merits of one of those little gudgeons which swim in shoals and disport themselves in that bright gravelly spot under the water near our right. Tench and carp will add to our day's sport, for these fish also are found in the Stour. Earth, which from time to time had accumulated in one spot, formed green islands in the water, being covered by Reeds and Sedges, the favourite resort of the reed-bunting and water-hen, with its tiny brood; and there we occasionally took our lunch, and, sheltered for a while from the overpowering heat of the mid-day sun, ballads and glees we sang, as only such light hearts could sing, making the occupants of a passing large stare as they heard sounds proceeding from a place usually unawakened, save by the incessant chattering of the bunting. Amongst the Reeds grew abundantly our favourite Forget-me-not; wreaths we gathered of it for the evening's social gatherings, when our morning costume should be discarded for one more befitting the votaries of Terpsichore.

"In all places, then, and all seasons,  
Flowers expand their light and soul-like wings,  
Teaching us by most persuasive reasons,  
How akin they are to human things!"

—ALICE.

### A VINEYARD UNDER GLASS.

ANOTHER doctor ventures to give you a description of his Grape culture without fire heat, and he does so the more willingly in gratitude to Mr. Rivers for his suggestion of a "vineyard under glass."

As yet, I have not seen an account in any journal how this mode of treating the Vine has answered. But as my friends and patients (many a grateful smile have I had for a fine bunch of Hamburgs), declare my house is a great success, I will give a short description of it, in the hope that many of my brethren, worn in body and mind, will follow my example, and find in it the same solace and relaxation that I have.

Myinery is a span-roofed orchard-house, 30 feet by 14. It was erected in the spring of 1860, and is made entirely of wood, iron, and glass, at a cost of £35. At one end I planted about six Vines in the border, 30 inches apart (3 feet is a better distance), and trained them as bushes to iron rods, 6 and 7 feet in length. At the other end I attempted to grow Peaches, Nectarines, and all the other stone fruits in pots; but year by year the Vines have encroached on their neighbours, and the house is now entirely filled by them. This is due to the Vine bearing a little neglect, and not being so liable to the attacks of insects. My failure in the cultivation of other orchard-house fruits is, I freely confess, due to myself. I have seen such superb fruit in the houses at Sawbridgeworth, and in those of Mr. Bréchant, in Guernsey, that I now know what can be done by the assiduous care and attention of a man who can command his own time.

In this one house I grow thirty-nine Vines (twenty-six varieties), all bushes but two, a Golden Hamburg and a West's St. Peter's, which run along above the path, and 2 feet below the ridge-board. The path is central, and the bushes are planted in two rows in the borders. In the autumn I prune each shoot to two eyes, not leaving more than two stumps to each joint. I can assure "J. H. H." that cutting to no eye does not answer. I have tried it; wood only is formed. In the West Indies, to secure two crops in one year, I am informed that all the spurs that have borne the first crop are cut off directly the Grapes are gathered, and that the dormant eyes of the naked stem break and bear well. The climate of England does not ripen the wood sufficiently to allow our Vines to bear such treatment.

The Vines that have reached maturity and have borne well this year are the Sweetwater, Muscat St. Laurent, Mill Hill Hamburg, Black Hamburg, Golden Hamburg, Grizzly Frontignan, West's St. Peter's, and Muscat of Alexandria. The Black Hamburgs have been superb in size of berry, colour, and bloom, even to within 20 inches of the ground, and the largest bunch weighed 22 ounces. West Somerset must be a more favourable locality for the Grape than Huntingdonshire, for I cannot join your able correspondent, "J. H. H.," in his complaint, and condemn my Hamburgs for deficiency of colour.

My borders are made of light friable soil from the garden, and they get in the autumn a liberal top-dressing of fowl manure. The subsoil is gravel.

It is rather with a troubled conscience that I write this paper. I may be riding my hobby too hard. Will you, therefore, be so kind as to append your opinion of the samples that I send you,

which are not to be taken as specimens of best bunches, they having been gathered some time since?—M. B., *West Somerset*.

P.S.—A word more to those of my medical brethren who have but a few feet of garden wall. Try Mr. Bréchant's system of diagonal cordon training of fruit trees. I have seen that it is good.

[The *Black Hamburg* was well grown, and as highly coloured and richly flavoured as could be desired. *Golden Hamburg* was dead ripe, and had hung rather too long, the point of union between the berries and the stalks having begun to decay; but the flavour was excellent. *Mill Hill Hamburg* required to hang longer. It is not so early as the old *Black Hamburg*; the specimen, however, is very good both in the size of the berries and the colour; the flavour will be unexceptionable. *West's St. Peter's* is not nearly ripe, and we doubt if it will ever acquire such a pitch of excellence in flavour as the others. It requires more heat than you can give it in an orchard-house. The same remark applies to *Muscat of Alexandria*, which, although good and highly musky, is not nearly ripe. *Grizzly Frontignan*, we think, cannot be true. We cannot detect any Frontignan flavour in it, and we are rather inclined to think that this is *Chasselas Rouge de Falloux*, or one other of the Red Muscadines. It is perfectly ripened, and very good as well as handsome. Altogether the collection is very interesting. You are labouring under the same mistake that many make in calling the *Royal Muscadine* the Sweetwater. What you have under the latter name is the *Royal Muscadine*, and a very good bunch it is.]

### MANAGEMENT OF MOWING-MACHINES.

SINCE writing my former letter about mowing-machines, I have again tried the effect of emery on the cutters of mine, and found it answer perfectly. The reason of its failure before, I find, was attributable to the smith I employed not applying it in a proper way, and screwing the cutters too tightly against the ledger-plate. I will, therefore, relate the modes of proceeding for the benefit of those who may require it.

I took off the small rollers, freed the iron ones from the pinion, set the knives so as just to touch the plate, placed the machine upon a table, and allowed it to recline on its handles. I then fixed a handle to the end of the axle, poured a quantity of fine emery into the hollow of the concave-plate at the back of the cutters, and turned them the reverse way. They carried the emery with them as they rotated, and it was continually swept up and again poured regularly along the before-mentioned hollow. In a short time I found they would cut a hair through if placed against any part of the plate. I beg to thank your correspondents for their several replies, and think with "W. C.," that finely-sifted sand would be a good substitute for emery.—*VERAX*.

### RAINFALL IN OCTOBER.

THE past month having been as extraordinary for the amount of its rainfall as the previous months were for drought, I expect that we shall hear of floods more or less disastrous. In Kent September was remarkably dry, the average heat of the first twenty days and nights together exceeding that of any similar period of consecutive days since July, 1857. The latter part of the month was also warm, and the dry hot weather continued up to the 9th of October, having commenced on the 25th of August. During that time only eight-hundredths of an inch of rain fell, and that was apparently what remained of a thunder-shower, which had spent itself elsewhere. Previous to the 25th of August we had some very heavy rain, which prevented vegetation suffering so much as it would otherwise have done; but in the first week of October the pastures and lawns were brown, and burnt up with the heat. A copious rain on the 9th, 10th, 11th, and 12th, amounting to 1.39 inch, was of great service; the next four days were fine and dry, but on the 17th rain fell in more than ordinary abundance. From then to the 31st 6.75 inches of rain fell; almost half an inch a-day. This is a greater rainfall than I have any record of for the last twelve years. The total rainfall in the month was 8.14 inches; that in the wettest month during the above period of twelve years (November, 1861), was 6.10 inches. The ground being dry at the commencement will no doubt account for so little of the rain making its way into our rivers; nevertheless I hear of some districts under water, and as 1.23 inch of rain fell on the 31st, when the ground had been tolerably well soaked beforehand, I expect to hear of much

of the level land bordering on the Medway being flooded. One of the tributaries of that river has spread itself over the adjacent flats for a mile or more wide in places.

These heavy falls of rain following a period of unusually dry hot weather have given the season a somewhat tropical character, especially as the dry period was preceded by a similar wet one, and that again by the hot dry month of June. It would be idle, I fear, to deduce anything from this unusual state of things, as it may be completely reversed another year; but it would be well to ask some of your many readers, who keep a register of the rainfall of their respective districts, if they ever before experienced so much rain in so short a time? Of course it is needless to ask the question of those residing amongst the Cumberland and Westmoreland hills, nor, in fact, of any of those bordering on the west coast, where the rainfall is so heavy; but I believe so very wet a period is without precedent for many years in this part of England, the most of the rain falling in what appeared to be thunder-showers. I hear of some whose registers show even greater rainfall than at Linton Park; would some of your readers be kind enough to report their experience, that a comparison may be made?—J. ROBSON.

### VINES ON A GLASS-FRONTED WALL.

In an obtuse angle where two open walls join we have a White Frontignan Grape Vine facing south-east, and a Black Hamburgh facing east. This year the Grapes are ripe, and very fine, but in ordinary seasons they do not ripen. We have been thinking of putting glass over the Vines, as they are established there, having been planted about thirty years. Would glass over them ripen the Grapes in ordinary seasons? and if so, what sort of a house would you recommend, having regard to economy as well as efficiency? The walls are 10 feet high. Would glass the same height in front, with a short span roof, be advisable? We have some old spare lights that are 9 feet long, would they be of any use in the construction? and what ventilation would you advise? If we use the old lights in an upright position, what width from the wall would you advise? Would it be better to use the old lights for a roof, and make a lean-to house with them? and in that case, would it be a good plan to have a small light between every light to open for ventilation, something after the same plan as in the Paxton houses?—INQUIRER.

[We have no doubt of the Grapes ripening in general seasons, where there is a fair amount of sunshine, if you attend to ventilation early enough, and take it away soon enough to shut up a certain amount of the sun's rays. This season is not a criterion to go by. We have seen Grapes in Bedfordshire, on the open wall, that would have passed for hothouse Grapes, but we cannot expect many such seasons, and, therefore, the glass would be an advantage. We think that the different plans you propose have each their own advantages, and that their superior fitness is more dependant on your own taste than on anything superior in the plan of making the most of your nine-foot spare lights. Thus you might have a nice upright fruit-house on the Trentham plan, from 4½ to 5 feet in width, by having a short double span for the roof, the apex some 15 inches above the top of the wall, and half of the span to open for a ventilator. Your nine-foot sashes could then stand on a stout rail or plate, supported on posts 1 foot above the surface of the ground, and a board could be hinged there for bottom ventilation.

If you adopted the Paxtonian system, and your sashes are strong, you could dispense with rafters. Have merely a receiving-board beneath the coping for one end of the sash, and a strong rail on posts, 2 feet from the ground, and 5 feet from the wall, to support the other end, fixed in its place by screws. Small sashes 4 or 6 inches wide, or even a board if the sashes consisted of large squares, could go between sash and sash. The front could be boarded up or covered with asphalt, water-proofed calico, &c. Of course, you could build a wall if you liked. By this plan, however, your glass will join the roof at a very acute angle, and for a foot or two there you will not easily get at it. To neutralise that we would have a small lean-to hip there, especially if you decided on rafters—say larch poles cut down the middle; and if that hip, whether of wood or glass, were some 15 inches wide, you could have the house all that wider, and you would have more room. If that lean-to hip were 15 inches wide, or even 18 inches, the top underneath the coping, and the lower part just over the top of the front sashes, these could be placed so as to give you a

house of from 6 to 7 feet in width. The front wall might be of boards, bricks, or whatever you pleased, and should be about 2 feet high from the ground. With such a lean-to hip of wood, but better if partly of glass, we would have 9 inches of it to open for ventilation, and a similar space in the front wall opening—say by means of a hinged board, and then we would fix all the sashes at once.

You cannot have all the advantages by any one mode. Presuming that you would not like to make ventilators in the back of your wall, your simplest plan would be to fix one end of your sashes below the coping, the other end on a rail or plate from 4½ to 5 feet from the wall, and from 18 to 24 inches from the ground, closing that space with anything the most handy. Fix the sashes, with from 3½ to 4-inch openings between them, and fill that opening at first with a thin board hinged on, cut into two lengths, so that you can give air to the top part first. This would cost very little, and you could alter it afterwards by merely unfastening the sashes.]

### WEST HOUSE, CONGLETON.

THE RESIDENCE OF JAMES PEARSON, ESQ.

WEST HOUSE, originally the property of Mr. Patterson, late Governor of the Bank of England, is one of those pretty suburban villas of moderate extent and in good keeping, that are occasionally to be met with in the environs of large manufacturing towns. I had the privilege of calling at this place a few days ago while on a ramble through the neighbourhood, and the extreme kindness which I received from the worthy proprietor, and the affability and attention of Mr. Chaddock, the head-gardener, rendered the visit most agreeable.

It struck me forcibly that in this age of travelling, many have an impression on their minds that in order to see what is grand and beautiful we must take tedious journeys from home. I remember about twelve months ago being much pleased with an interesting article by Mr. Robson, in the pages of this Journal, in which he strongly recommended gardeners to visit places far from home. I then agreed in the main with all that he said, and being acquainted with most of the places mentioned, I can vouch for the rich treat there is in store for any gardener wishing to explore those districts. The wealthier of our neighbours not specially interested in the progress of horticulture, and yet requiring a little relaxation from the common avocations of life, seek out spots famous either for health or pleasure; they resort to some noted watering place on the British coast, or they seek out some inland spot remarkable for its scenes of attraction and beauty. They must either go to the Vale of Clwyd, the Lakes of Windermere, or Walton-on-the-Nase; but it is a certain fact that, great as are the means of travelling, and the cheap excursions offered by the different railway companies, it is not always convenient for gardeners to leave their places for many days together, nor have they all the means to do so. My residence being the charming village of Biddulph, about four miles south-east of Congleton, I determined to call upon some of my neighbours; so after an early dinner I sallied forth, resolved to seek out near home some of those places where gardening is cherished, and having jotted down a few notes by the way, I here present them to the readers of THE JOURNAL OF HORTICULTURE.

The first part of my journey being performed on foot, I was anxious to make the best of it, so I chose the way past Biddulph Hall, an old-fashioned mansion situate on the summit of a high hill, but lying partly in ruins. As I stand by the old dilapidated place a glorious scene of unrivalled beauty appears. To my left, and only about a quarter of a mile distant, lies Biddulph Grange, surrounded by the far-famed gardens of James Bateman, Esq.; a little further on stands the venerable village church, surrounded by its old Yew trees, and beneath the shade of which and the shadow of the old spire, many of "the rude forefathers of the hamlet sleep." In the churchyard there are some ancient tombs, bearing crosses, pickaxes, swords, &c. A little beyond stand Knypersley church and schools, built by the late respected owner of Knypersley Hall, Mr. Bateman, sen.; and a little distance from the church are the gardens renowned for Mr. J. Bateman's large collection of Orchidaceous plants, and where the visitor finds himself at once transported from the bleak district around into the wild luxuriance of a tropical world. In addition to the Orchids is the span-roofed vinery nearly 200 feet long and 20 wide, and there are many houses of smaller dimensions. Near this place rises the famous river Trent, as also a branch of the Dane. Before me at the other



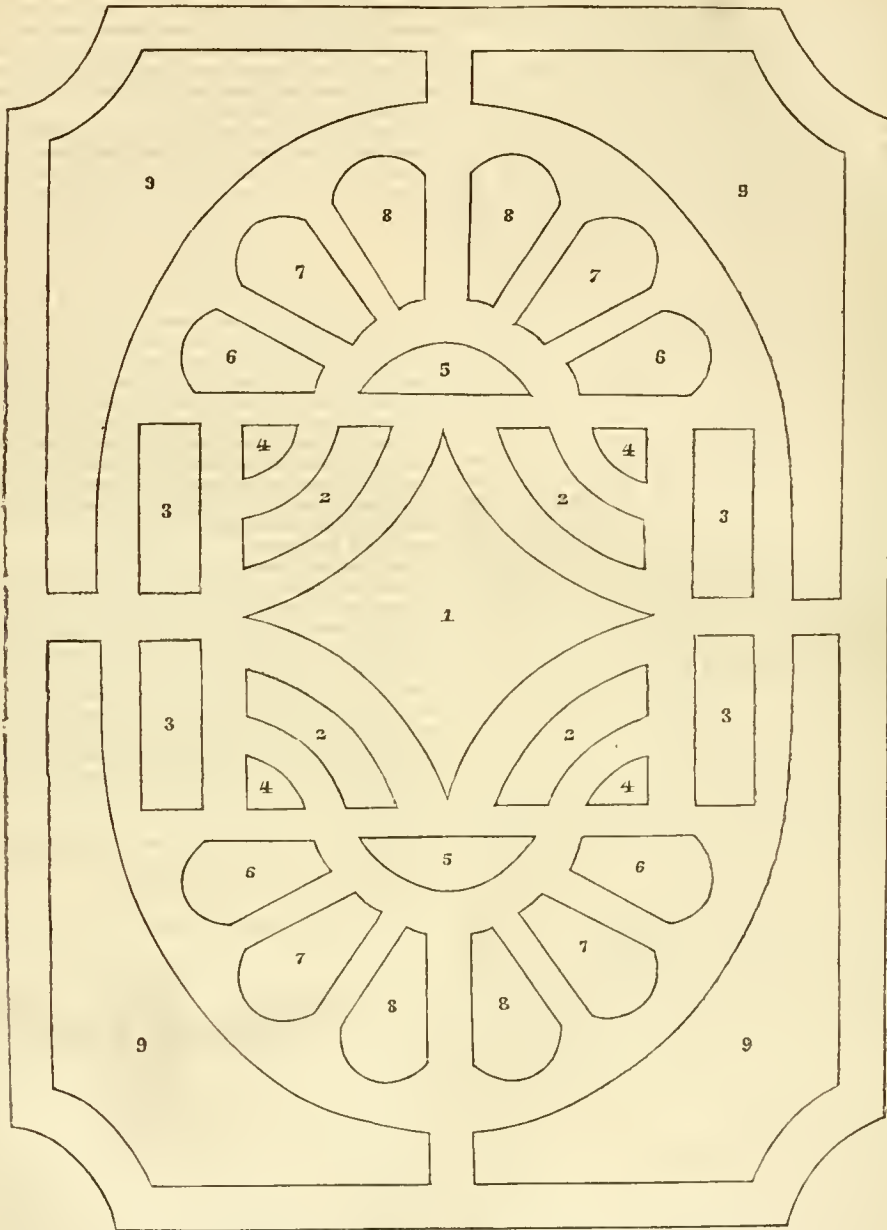
side of the valley is the celebrated mountain called Mow Cop, noted in history; and on its summit, which is nearly 1100 feet above the sea level, is the old tower around which has gathered many a jovial pic-nic party. Behind me is a range of hills

that take their rise at the Cloud, a fine dome-shaped hill about two miles east of Congleton, and from which south-eastward rise the rocky ridges about Biddulph, Knypersley, Brownedge, &c. By my side stands the ancient Hall of Biddulph, built by

*Pinus excelsa.*

*Wellingtonia gigantea.*

*Pinus excelsa.*



1. *Calceolaria Aurea floribunda.*
2. *Verbena Purple King.*
3. *Geranium Stella.*
4. *Geranium Alma.*
5. *Calceolaria Aurea floribunda.*
6. *Calceolaria Victor Emmanuel.*
7. *Lobelia Paxtonii.*

8. *Tropaeolum Lobbianum elegans.*
9. The outer row next to the Box edging. *Cerastium tomentosum*; next this *Lobelia speciosa*; and the centre filled with yellow and white-edged *Geraniums* alternately.

Francis Biddulph in the fifteenth century, and now in the possession of Mr. James Bateman. As I stand and gaze on the scenery for a few moments, I cannot help thinking of the bloody struggle which here took place, according to the stray relics of history and tradition, more than two hundred years ago, when the Hall was defended by the royalists. The Protector placed his large guns on the hill adjacent, but being

unable to accomplish his work of destruction at such a distance, he was compelled to cross the valley with his staff and take up his position on a more favourable spot on Troughstones, a high eminence, one of the ridge of hills just named. From this point he demolished the Hall, and the Royalists finding they had no chance of success, surrendered to Cromwell's army. I now pursue my course onward into the valley, and cross

the warbling brook on an old rickety plank, a peer substitute for a bridge.

Apologising for this digression from the heading of my subject, I pass on to West House, the object of my travels. The mansion and grounds are situate at the western extremity of Congleton; and though the grounds are so closely adjacent to a thickly populated portion of the town, yet the visitor, when walking over the green velvety sward, or pausing for a moment beneath the shade of the tall trees to admire some object of interest, has no idea but that he is visiting some country seat far away from the bustle and clamour of town life.

As the grounds are entered the house lies to the right. It is a square-built mansion not of palatial pretensions, nor yet of architectural beauty, yet presenting a very pleasing exterior, and fitted up internally with considerable elegance. Its internal arrangements are admirable, and offer a vast amount of domestic comfort and convenience. The kitchen garden lies to the left surrounded by turreted walls, but not discernible from the house. The stables, carriage-houses, yard, &c., are on the west side of the mansion, and judiciously screened from view by large Hollies and other evergreen trees of extraordinary size. In the kitchen garden there is a large viney 100 feet long and 20 wide, the roof being covered with good Grapes of such varieties as Golden Hamburgh, Muscat of Alexandria, White Nice, Black Hamburgh, Black Prince, &c., the black varieties possessing that jet-black hue which is so desirable in Grape culture, instead of that dingy red colour which is too frequently met with in these wonderful days of Grape cultivation. Beneath the Vines, I noticed large Orange trees and Camellias, and in addition a miscellaneous collection of flowering and fine-foliated plants, including in the former Achimenes, such as Mauve Queen, and Sir Treherne Thomas; Gloxinias, &c.; while in the latter were Caladiums of every tinge and hue, Begonias, Ferns, &c. Passing out of the viney we enter a Peach-house; here is a trellis a short distance from the wall to which the trees are trained, the path running in front of the trees. This system is in advance of what we occasionally see, where the trees are trained to a trellis below the glass, where only an occasional glimpse of the fruit can be obtained through the foliage. The trees were in a vigorous state of health, and the best mode of praise I can confer on the fruit is, that it was such as Mr. Chaddock usually grows. On the walls outside I noticed some very fine Plums—such as Goliath, Nectarine, Green Gage, &c., which took a first position at the Cheshire Agricultural and Horticultural Exhibition, held at Congleton about three weeks ago.

Leaving the kitchen garden and wending my way towards the front of the mansion, I noticed a magnificent specimen of the Purple Beech (*Fagus sylvatica purpurea*), its branches extending 150 feet in circumference. In front of the house is a neat and well-kept flower garden. The beds are all edged with Box, and the walks covered with white gravel. The plants in the various beds were all in full bloom when I visited it, and the colours were nicely balanced and produced a good effect. The accompanying is a plan of the flower garden, one well adapted for places of limited dimensions. At the farther end from the house, opposite the central walk, was a Wellingtonia, and on each side a Pinus excelsa. Near the flower garden I noticed a small piece of water, in which were luxuriating beautiful Nymphaeas. A bed of superb Gladiolus produced an imposing effect. The dressed grounds are separated from the land below by a raised bank of Rhododendrons, and in front of these was a winding ribbon-border, of which the first row was a broad belt of *Cerastium tomentosum*; 2nd, *Lobelia speciosa*; 3rd, *Tropaeolum Lobbianum elegans*; 4th, *Calceolaria Aurea floribunda*; 5th, *Stella Nosegay Geranium*, the background being the Rhododendrons.

The view of the adjacent portion of the town is entirely excluded by a large mound of earth and rockwork, which it took the proprietor years to raise at a great cost. It extends the whole length of the pleasure ground, and is diversified by evergreen shrubs. From the northern side of the mansion views of a charming landscape are obtained; in the distance may be seen the village church of Hulmevallfield, and in the valley the river Dane flows in a winding stream.

Before taking leave of the subject before me, allow me to suggest to my brother gardeners, that they might profitably employ the few hours at their command by visiting occasionally some of our delightful suburban villas. There is frequently something to be picked up even where no pretensions to display are attempted. Things that appear trifling in themselves sometimes may be of great importance in their results,

and for that reason not to be despised, even when found in places where we least expect to meet with them.—QUINTIN READ, *Biddulph*.

## NOTES FROM OUR VILLAGE.

PERHAPS you will be kind enough to allow me space in your Journal—perhaps I should be going too far to say in "Our Journal," but really it sounds so familiar that I cannot help so speaking of it, for it is a great favourite of mine. I am always glad when my master hands it over to me, which is generally not later than Wednesday evening, and it is my pocket friend until I have well read and digested every article, and then I anxiously wait for the next.

Now, I should like to jot down a few notes from "our village," beginning by saying a little about the Celery fly and maggot, as it has been very troublesome here this season. The first thing I should like to know is, What fly it really is, I hear so many different opinions about the fly! I have always seen a small light green-coloured fly about one-quarter of an inch long on the Celery on summer evenings, and as we have walked between the rows it has taken wing from the Celery in front of us, and our head-gardener used to say that that was the fly that did the mischief, and he is a man of thirty-years experience in his present situation. Now, as a preventive, I find nothing is better than to sprinkle the foliage over with water, and then to dust it with a mixture of lime and soot, and if you add a little sulphur all the better. Always pick off an affected leaf and burn it.

Now, I always thought that the maggot as soon as hatched in the leaf kept continually feeding until it had finished that leaf, then fell to the ground, and there was an end to it for the season; but from watching carefully this season I find several in the morning outside, on the upper surface of the leaf, and I think that they enter again in a fresh place, if so, the sooner they are picked off the better.

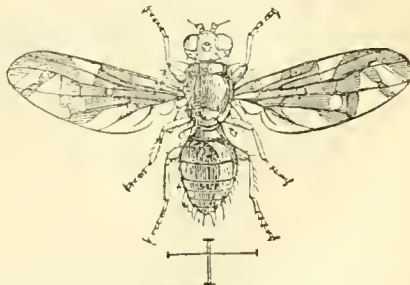
Another fact I must mention; I have often seen the robin picking them off the upper side of the leaf early in the morning.

Potatoes have been very much diseased in this district; I have had some of the finest I ever saw, and a good crop as regards quantity, but the diseased were three to one that was good.

Carrots and Parsnips are very good; in fact, this is a Carrot year with us about Bickley. We are making Bickley quite a large horticultural locality, and, above all, we are about to establish a working man's reading institution for lectures and readings. It is supported by very influential gentlemen. We have Sir John Lubbock, Bart., as President, other gentlemen are patrons, and one gentleman, Coles Child, Esq., has given the ground, which is freehold.—J. R. P.

[In our very earliest volume we published a drawing and description of the Celery Fly, which we will now repeat for information to the present generation:—

"In the autumn it is very common to observe part of the leaves of Celery plants blistered and turned yellow; and this



occurs occasionally to such an extent that their growth is checked and their size proportionally diminished. If the withered parts are examined, and the cuticle, or skin, of the blisters, is raised, there will be found beneath it some small green grubs, which have eaten away all the green pulp (parenchyma) of the parts so withered. These grubs are the larva of the Celery Fly (*Tephritis/Onopordinis*). The grubs may be found in the leaves of the Celery in June, July, September, October, and November; for there are two or more broods of them in the course of the year. The grubs, though less frequently, are found doing similar damage to the leaves of Alexanders and Parsnips. When full-grown, the grubs descend into the earth and remain in the chrysalis state until the spring following, when they give birth to the fly. This, the Celery Fly, may usually be found upon



the leaves of the Laurel, hovering over flowers and resting upon palings in the sunshine, from the middle of May to the end of July. It is one of the most beautiful of the English two-winged flies, and has been thus described by Mr. Westwood. The general colour of the body, which is five-jointed, varies from rusty-brown to shining black; head buff, with black hairs; legs yellow; thorax (throat) sprinkled with long black hairs; wings black, with various pale spots; eyes green. The whole length of the insect is not more than one-sixth of an inch, and its wings, when outspread, barely half an inch across. The cross-lines in our woodcut shows these proportions, as well as the insect magnified. The motions of this fly are very peculiar; seated upon a leaf in the sunshine, the wings are partially extended, yet partially elevated, and it has a sideling kind of motion. The withered leaves of the Celery should be picked off, and the grubs within them crushed as soon as seen. Mr. Wedgewood suggests that a string, smeared with birdlime and stretched over the Celery-plants, might catch many of the parents."]

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

If any esculent roots remain in the ground they should be taken up immediately. *Asparagus*, the haulm may now be cleared off, cleaning the ground and giving a good dressing of rotten manure, and in the case of young plants, which are only very lightly covered, the manure might be mixed with a quantity of leaf mould, applying a good solid coat 2 or 3 inches thick if the manure and leaf soil can be spared. *Cauliflowers*, the plants in head, if not wanted for use, may be pulled up and hung in a cool shed, where they will keep for weeks, and be out of the way of injury from frost, unless this should be very severe. *Celery*, the late crops should now be earthed-up rather closely, making the ridges as narrow as the top as can conveniently be done, and nicely finishing the sides with the back of the spade, so as to prevent, as far as possible, the soil about the plants becoming saturated with wet. The soil about the early crops, or that fit for use, should also be made to throw off the wet as much as possible, pressing it firmly about the tops of the plants, and making the top of the ridge narrow and smooth. Of course Celery will not be earthed-up after this season, when the plants are wet, neither should it be done when the soil is wet, if this can be avoided. Mixing plenty of quicklime with the soil about the plants will be found of considerable use in preventing their rotting in winter, and it will also save them from being disfigured by slugs. *Endive*, continue to blanch it by tying up or by wrapping the leaves together and laying two flat tiles on each plant, so as to form a slight ridge, one tile overlapping the other. *Cabbages*, earth-up those planted for Coleworts for winter and early spring use; look over the principal plantations frequently to see if slugs attack the plants, if they are numerous lay a quantity of Cabbage leaves on the ground and examine them daily, a pail of hot water or some lime may be taken round at the same time and the slugs shaken into it. Thus many thousands may be destroyed at this time of year. *Lettuce*, pay the same attention to the autumn plantations that was recommended for the Cabbages. Give air to the young plants in frames daily; Cabbage Lettuce in frames for winter use will not require much air. *Peas and Beans*, a few may be sown on a dry and warm border. They are sometimes covered with cinder ashes, which is a bad practice, and they are liable to go off in the spring from that cause.

### FRUIT GARDEN.

If fresh trees are to be planted in old borders let it be done with as much care as possible, a harrow-load or two of fresh soil may be put into each hole and mixed with the soil of the border. Let the holes be made sufficiently large for the roots when laid out straight; it is by inattention to this that snickers arise, which is in a great measure caused by cramping and twisting the roots. Strawberries for early forcing should be placed where they can be protected from drenching rains—a cold frame or pit, when either can be spared, would be the best situation for them, but the lights should not be put on save in case of rain or frost, and, indeed, the whole stock in pots for forcing would be benefited by being placed where it could be guarded from heavy rains. Let there be no lack of attention in the fruit-room at present, for fruit requires more care during the first few weeks after gathering than all the season afterwards. Give just sufficient air to carry off damp, but nothing more, as allowing dry winds to blow over the fruit would only cause shrivelling.

### FLOWER GARDEN.

Those who purpose making additions to their collection of Roses should do so at once, as there will be a better chance of obtaining good plants now than after the nursery stock has been repeatedly picked. The present season is also very favourable for planting all but tender sorts, which had better be kept under glass until next May; but these should be procured at once, and if they can be placed in a gentle heat through the winter they will grow freely, and furnish cuttings which will root just as freely as *Verbenas*. In preparing ground for Roses, let it be trenched at least 2 feet deep, and well incorporate a heavy dressing of manure with the soil to the full depth. It is hardly possible to make the soil too rich for any kind of Rose, particularly the autumn-blooming kinds, and 4 or 5 inches of good rotten farmyard dung will not be too much where the soil is naturally rather light and poor. Large-headed standards that have done blooming for the season should be cut back pretty freely to lessen the chance of their being injured by heavy gales of wind. Continue to clear the beds of their summer occupants, as these become unsightly, and after trenching or doing whatever can be done to save time next planting-out season, furnish them for the spring. The principles of protection are few and simple, and may be said to be within the reach of every one, at least as far as such can be carried out without the aid of houses and artificial heat. A comparative degree of dryness is the first great essential, whether in the atmosphere or the soil. In a frame or pit this amount of dryness cannot be guaranteed without motion in the air, and this, of course, in the absence of fire heat, must be accomplished by a very free ventilation at every fitting opportunity, remembering that a small amount of frost is, in general, less prejudicial than an accumulation of damp, which will rapidly tend to a kind of mortification in the system of the plant. The same atmospheric conditions are to be obtained out of doors as far as attention can secure them: thus half-hardy plants, against trellises or detached, if covered with a mat stuffed closely with hay inside, will be in danger of perishing of what we may for the present term suffocation; the same specimen will always pass through a long winter better with the mat alone, more especially if the collar is well protected by some dry and porous material, and above all, the roots well top-dressed with sawdust or ashes.

### GREENHOUSE AND CONSERVATORY.

Take advantage of unfavourable weather for out-door work to thoroughly clean the foliage of Camellias, Orange trees, &c., for it is hardly less essential to the health of such plants that their foliage be kept clean and in a fit state to perform its functions than that their roots be kept healthy and active. Look over the plants in the greenhouse frequently, and examine plants very closely that are liable to suffer from mildew and damp, such as *Leschenaultias*, *Boronias*, &c., for a short neglect will sometimes result in the disfigurement of a promising plant. The *Boronias*, *Leschenaultias*, *Gompholobiums*, &c., are very impatient of exposure to cold drying winds, but air must be admitted by the top sashes freely on fine days. Young specimens of *Azaleas*, which have been growing in heat, had better be removed to a cool house for a few months, which will cause them to start away more freely in spring. Keep *Cinerarias* and other soft-wooded stock clear of green fly, and endeavour to secure stocky plants by affording them sufficient pot room. The bulbs of Japan Lilies to be shaken out of their pots, and to be repotted in half good fibrous loam and half peat soil, or decomposed leaf mould as a substitute for peat, with a small portion of silver sand. As the bulbs, when making their spring growth, emit roots for 2 or 3 inches up the stem, they will now require to be planted that depth from the surface of the pot, and to be earthed up with the compost in the spring.

### PITS AND FRAMES.

Roses for early forcing should be pruned by this time, and placed where they will at least be safe from heavy rains. Where American and other shrubs are used for forcing these should be taken up and potted without delay, placing them in a cold pit until they are wanted for forcing, or in a turf-pit where they can be protected from severe weather, by straw mats, shutters, or other covering.—W. KEANE.

## DOINGS OF THE LAST WEEK.

*Tidiness*.—As well attempt to wash an Ethiopian white as to keep all trim and neat in gardens now. Ere long we shall be glad of a sharp frost that will finally settle all the summer

flowers in the flower garden, and so bring down the leaves of deciduous trees that a rake and a brush will be somewhat telling. Now, all work of this description requires to be begun again before it is well finished. It is do, do, and never done. Unless where there is abundance of labour, and in cases where the lawn would be injured by a thick deposit of leaves, it generally becomes a matter of necessity to keep all tidy in the principal places, and allow the rest of the domino to be somewhat rough until a more general cleaning up would be more effectual. It must be remembered that we have nothing to say against the extreme of tidiness where it can be attained, and it should if possible be attained in places that come prominently and regularly before the eye of a resident proprietor; but in most places where work, needful work, has to be done, there is something unsatisfactory and next to tantalising in using a broom on a lawn all day, and then from the falling leaves being unable to perceive in an hour or two any visible proofs of your workmanship. Than this want of visible result there is nothing in the whole field of labour more depressing to the workman. We do not say that the lawn would not be better if swept and rolled every day, even amid the falling leaves; we only say that, carried on continuously, the doing, doing, and never done exercises in time a depressing influence, and one that often will not be removed when the occasion has passed away.

This constant cleaning and never clean also tends to keep back other work, as mowing, planting and transplanting, turfing, &c. If the full benefit is to be derived from the fallen leaves, they will be more serviceable every way, keep their heat much longer, and be more easily brought home if collected somewhat dry instead of wet. Besides, at this season most trees in their changing and fading foliage have a beauty peculiarly their own, and many are more attractive than when appalled in the luxuriance of summer. As we lately admired some beautiful Thorns, the foliage of various colours, but adding a richness to the large yellow, and scarlet, and crimson fruit with which the trees were loaded, we could not help thinking that the leaves and fruit that studded the grass added to, rather than diminished, the attractions of the scene. Call such thoughts poetical instead of practical if you will; but many will be glad if such poetry would pass current, instead of their being forced to neglect necessary work for the never-ending use of the broom on the lawn, though far removed from the mansion. We have met with several instances where the most important work was always necessarily behind, because a large lawn had to be kept rigidly neat at all times. Part of the lawn at a distance from the house was devoted to Pinuses and the finer deciduous trees, and in these circumstances it would have been much preferable to have allowed the ground there to go roughish, or even to be covered with low plants of Furze, Broom, and other shrubs. We feel sure that with plenty of room to spread, the Pines, &c., would even look better in such circumstances, more natural even, than when the ground was brushed about them several times a-week just now. The saving of unseen and therefore often unappreciated labour would be immense.

#### KITCHEN GARDEN.

*Blanching Celery.*—Here, on Thursday, being our only dry day, we brushed our Celery with a light broom after breakfast, to cause it to dry sooner, and then set to tying each head up with a strand of matting, after seeing that no suckers were left, and earthing it up, placing dry siftings from coal ashes round the stems, which will keep slugs and worms from them, and help to keep moisture and frost from injuring them. But for the frosty mornings we would not have hastened this operation, as large Celery is easily injured by frost, and especially after it has received a little earthing-up. Smaller heads that are planted shallow and without earthing-up, will often stand uninjured in frosty weather. Just in proportion to the care and coddling given to them, will be their liability to be injured by frost. Instead of earthing-up too high, we prefer now, if we had the material, to place a layer on the top, packed in close to the plants, of tree leaves, stubble, or litter of any kind; and this is more necessary when the Celery is grown in beds, as if this covering material is raised a little in the centre, as soon as it becomes smooth and firmish there, it will send off the rains as well as keep out the frost, as the whole of the loose light stuff beneath the eaked surface will be a porous non-conducting material. Six inches will be enough of this porous material, especially at first. In severe frost a little may be placed over the tops of the heads and removed when the frost is gone. Mr. McDonald, of Woodstock, Ireland, uses moss for

blanching with very good effect. Some use tubes of earthenware. Half-circular or half-moon tubes are good for placing round the plants, if you use ashes next the stems, but good workmen manage all that nicely with a few boards, drawing them out and pressing the earth to the ashes. We generally manage to have a heap of unsifted ashes at this season for the purpose—a matter of importance on our heavy soil. We use a sieve with quarter-of-an-inch openings, or rather less. What goes through is used for this purpose, and what remains goes to the furnaces. Cauliflower coming in, we protected by placing several leaves over the head. We have not yet moved that or Endive under protection, but the sooner it is done the better and the safer the Endive will be.

#### FRUIT GARDEN.

Much the same as in the previous week. Had protection ready for Strawberry-pots if necessary. A lot showing bloom, especially of Black Prince, have been put under glass, so that they may not be injured. No time should be lost in preparing for planting fruit trees in the modes recently alluded to. If not done presently, there will be little gained in doing it until March. Threw a little stubble on the Vine-border; pruned and cleaned part of the first Peach-house; drew a light broom over Peach and Apricot trees; took off the leaves and fruit from plants in the small Fig-house, and, but that the fruit was asked after, would have done this by the middle of October, as that is long enough for Figs to bear, if they are expected to bear early next season.

#### ORNAMENTAL DEPARTMENT.

The continued wet has prevented us doing much on the lawn. The sooner all the summer flowers are removed the better now, for all the beauty that is left. The small dwarf *Tagetes tenuifolia* is still as fine as ever, seeming to rejoice in dry weather and wet weather alike. We would rather let the beds seem out of order for a few days than have feet and barrow-wheels on the lawn after so much wet. A dry day or two will make all right, and in a dry day the double of the removing work can be done, and with but little cleaning afterwards. We recollect being one in doing a day's work on a wet day, and it took just two days to remedy the injuries made on the walk and lawn. The two days' labour would have been saved, had the men done something in the sheds, and colds and rheumatisms, the results of the soaking in the end of November, would have been avoided.

The whole week has been chiefly employed in potting, putting in *Calceolaria* cuttings, and pruning and striking old *Geraniums* in pots, as stated last week. *Chrysanthemums* under glass needed some picking, and to be watered with manure water. *Cinerarias* needed placing under protection; also all Chinese *Primulas* not in the greenhouse. In the mild days gave hardwood plants plenty of air. Abundance of light is now given in plant-houses by reducing and pruning back climbers, which bloom on young shoots chiefly in summer. Bulls potted or planted must be guarded from mice, and all florists' flowers—as *Auriculas*, *Polyanthus*, *Carnations*, &c., must have plenty of air, and be protected from the heavy rains. As good a plan as any, if the plants are in pits or frames, is to elevate the sash by a half brick or other means at the four corners, so that the air shall pass through unobstructed, and yet the rains be all thrown off. In a fine dry day, as Thursday, after the frost in the morning was gone, and the sun shone so brightly, the sashes should be taken off entirely, and replaced in the afternoon. We did so in the case of thousands of young striking cuttings of *Geraniums*. The drying of such a day is the best preventive against damping. In their case, however, as the young plants were neither so hardy, nor yet so injured to the open air, the lights were all replaced between one and two o'clock. In dull muggy weather we would merely give a little air at back, and less in front, but the sun was so favourable that we were glad to give them all we could unobstructed. Of course, if the air had been cold with the sun, so much exposure would have been injudicious.

*Centaurea candidissima*.—We think we have touched upon most of the bedding plants except this, and there are several inquiries as to its propagation, &c. It may be struck at any time, summer, winter, or spring, by being inserted firmly in sandy soil, over good drainage, and close to the sides of the pot, a little hole or cavity being left in the middle of the pot for giving a little water when necessary, instead of watering all over and on the cuttings. In winter, especially, it does not like much moisture. The best time to strike it quickly is in spring. Cut down or nip out the points of the larger plants, and ere long lots of shoots will come from the stems and as



suckers. When these are about 3 inches in length they are not so woody, and slipped off they strike quickly in a little heat where there is not very much moisture. The plant is comparatively hardy, and will never grow in a house with the same luxuriance that it will do out of doors after June. These little bits may be inserted round the sides of pots in the way spoken of; but if quick work is wanted, they must be repotted singly as soon as they are rooted, as the roots are excessively brittle and tender, and snap easily when we attempt to separate those of one plant from another. The best of all plans, therefore, would be to place a single cutting at the side of a small, say thumb pot, and repot with a ball whenever it was struck. This would require more trouble and room at first, but there would be no check from broken roots.

As to hardness, we believe it is nearly as hardy as the *Cineraria maritima*, and that generally stands the winter with us, but not always, as it has been frequently next to lost in wet winters, and in such a severe one as those of 1860 and 1861. We have, therefore, taken a good portion of our *Centaurea* up, and divided the most of the plants by splitting down the stems above the roots, saving a portion of the roots and potting each divided piece (each of these, again, having two or three stems), into single pots of some 3 or 4 inches in diameter. These, if we like, we can top in spring. At present all leaves but some small ones at the point are removed, and as the lower leaves were rotting, we sprinkled the stems with charcoal and lime. Others we cut over a few inches above the ground, and packed them firmly in larger pots, fastening the roots round the sides firmly, and making the pot as full as in the case of *Scarlet Geraniums*. They did well treated both ways last year. The small young plants struck early in spring will make the neatest edgings in summer. To have plants with good foliage in winter, they should be kept in pots the previous summer, and not be potted after September. When planted out they seldom lift well with anything like a ball, and, therefore, the old plants which we take up and keep we deprive at once of most of their leaves. If after this roughish treatment they can be kept in a temperature of from 45° to 55° and 60°, and the heat given be dry rather than moist, they will begin to fresh root and grow sooner, and after that a cooler dry place will suit them very well. All through the winter they will be more apt to suffer from damp than from dryness, or cold, if frost is excluded. To "ELSTER," who wishes very much to know, if we prefer the candidissima to ragusina, or either to *Cineraria maritima*, we can give no other answer than that if there is a shade of preference in our mind, it would be in favour of the *Cineraria*, but all are good and useful.—R. F.

### COVENT GARDEN MARKET.—NOVEMBER 4.

SUPPLIES moderate, and a fair amount of business doing. Dessert Pears chiefly consist of Marie Louise, Beurre Diel, Crassane, and Duchesse d'Angoulême. Apples comprise Ribston Pippin, King of the Pippins, Nutmeg Pippin and some others of less note. Potato trade heavy.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... $\frac{1}{2}$ sieve	1	0 to 2	Melons..... each	4	0 to 7
Apricots..... doz.	0	0 0	Mulberries..... punnet	0	0 0
Cherries..... lb.	0	0 0	Nectarines..... doz.	0	0 0
Chestnuts..... bush	12	0 20	Oranges..... doz.	10	0 20
Currants, Red $\frac{1}{2}$ sieve	0	0 0	Peaches..... doz.	15	0 20
Black..... do.	0	0 0	Pears (kitchen)..... doz.	2	0 4
Figs..... doz.	1	6 3	dessert..... doz.	1	6 4
Filberts..... lb.	0	9 1	Pine Apples..... lb.	7	0 10
Cobs..... 100 lbs.	120	0 140	Plums..... $\frac{1}{2}$ sieve	5	0 0
Gooseberries..... $\frac{1}{2}$ sieve	0	0 0	Quinces..... $\frac{1}{2}$ sieve	3	0 4
Grapes, Hambro..... lb.	2	0 5	Raspberries..... lb.	0	0 0
Muscats..... lb.	3	0 6	Strawberries..... lb.	0	0 0
Lemons..... 100	8	0 14	Walnuts..... bush	14	0 20

#### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	4 to 6	Leeks..... bunch	0	3 to 0
Asparagus..... bundle	0	0 0	Lettuce..... per score	1	0 2
Beans Broad..... bushel	0	0 0	Mushrooms..... pottle	1	6 2
Kidney..... $\frac{1}{2}$ sieve	3	0 5	Must. & Cress..... punnet	0	2 0
Beet, Red..... doz.	2	0 3	Onions..... per bushel	3	0 5
Broccoli..... bundle	1	0 2	pickling..... quart	0	0 6
Brus. Sprouts..... $\frac{1}{2}$ sieve	2	0 3	Parsley..... $\frac{1}{2}$ sieve	1	0 1
Cabbage..... doz.	0	9 1	Parsnips..... doz.	1	0 2
Capsicums..... 100	1	0 2	Peas..... quart	0	0 0
Carrots..... bunch	0	4 0	Potatoes..... bushel	2	6 4
Canflower..... doz.	3	0 6	Kidney..... do.	3	0 4
Celery..... bundle	1	0 2	Radishes doz. bunches	0	6 1
Cucumbers..... each	0	6 1	Rhubarb..... bundle	0	0 0
pickling..... doz.	0	0 0	Savory..... doz.	0	9 1
Endive..... score	1	0 2	Sea-kale..... basket	0	0 0
Fennel..... bunch	0	3 0	Spinach..... bushel	2	0 3
Garlic and Shallots, lb.	0	8 0	Tomatoes..... $\frac{1}{2}$ sieve	2	0 3
Herbs..... bunch	0	3 0	Turnips..... bunch	0	4 0
Horseradish..... bundle	2	6 4	Vegetable Marrows dz.	1	0 2

### TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

POTATO MURRAIN (T. R.).—It was first publicly noticed in this country in August, 1845, and was, we believe, equally prevalent in England, Scotland, and Ireland.

GLASS AGAINST SOUTH WALL (H. C.).—Nothing to prevent your having Vines, Peaches, &c., against your wall, and with a glazed lean-to covering as you propose. It will be an orchard-house. If you send seven postage stamps to our office and order "Greenhouses for the Many" to be sent to you, you will have it free by post, and at page 57 there is just such a structure described.

WATERPROOFING CALICO (N. C.).—Pale linseed oil, 3 pints; sugar of lead (acetate of lead), 1 oz.; white rosin, 4 ozs. Grind the acetate with a little of the oil, then add the rosin and the rosin; incorporate in a large iron pot over a gentle fire; tack the calico loosely on the frame, and apply the compound with a large brush while hot.

THE MODERN PEACH-PRUNER (A Constant Reader).—M. Grin advocates one universal system of pruning to the leaves. The modern Peach-pruner (as will be seen in No. 17) does not, however, consider this suitable to our climate without the modifications suggested. The pruning of Plums is simple enough; provided you attend to the general growth, and do not shorten the branches; the rest is easy.

FRUIT DROPPING IN ORCHARD-HOUSE (A. J. P.).—Its dropping as soon as formed seems to intimate that the root-action of the trees is defective. This may arise from the soil being too dry; or the wood on which the fruit is produced was not ripened last year. It is difficult to assign a cause of failure without knowing how the trees are managed, nor even the sorts.

BLEACHING SKELETONISED FERNS (Mrs. Ric.).—Dissolve 2 ozs. of chloride of lime in 3 pints of water. Let the skeleton remain in some of the solution in a flat dish for an hour, then take it out and wash it thoroughly with two or three changes of water.

REMOVING THE BANDAGE FROM RUDDEN ROSES (E. C.).—The wool with which the buds were bound should be loosened to allow of their swelling, and, as it has not been removed before, it may remain bound lightly round them until spring, when it should be removed altogether. The buds that are looking very green and plump will shoot strongly in the spring.

SOWING PINK-FLOWERED CHESTNUTS—SIFTED COAL ASHES FOR DRAINAGE (Calceolaria).—You may sow the Horse-Chestnuts (*Pavia*) now in lines a foot apart, or keep them in a cool place in sand until March and then sow them in an open situation, covering with about an inch of light sandy loam. The majority, if not all, of the seedlings will have pink flowers like the parent; but to be certain of this it is best to graft the pink-flowering Chestnut upon stocks of the Horse-Chestnut when the sap is flowing, whip grafting being the most eligible. Sifted coal ashes will, to a certain extent, act as drainage, but not more so than friable loose soil.

PLANTING AND PRUNING PILLAR ROSES (Country Curate).—Your very strong last year's-budded Roses you may plant in November, or, if the soil be heavy or wet, defer doing so until the first open weather in February or March. The best time to plant hardy Roses is from October to April, when the weather is mild and the ground in good working order. If you plant in November, which is what we recommend, you need not shorten the shoots of those budded this year, for the few leaves and green shoots will tend to a speedy formation of roots, or cause them to callus where cut. In March prune them to five good sound eyes, and if they shoot strongly allow all to grow, but if weakly disbud to three, or to one if very weak. Make choice of the strongest shoot and train it to the pillar, allowing the others to grow loose. In the pruning, after another year's growth, prune the side shoots to five eyes each, and the other or upright shoot to two-thirds its length, or take off one-third if strong and two-thirds if weak. In future years prune all the side shoots to three eyes, and the leading shoot to one-third its length. When the old shoots become weak train a strong shoot from the bottom, making room for it by cutting away an old worn-out one when it has done blooming. We do not perceive what you seek to gain by taking up the Roses budded this year, unless they are tender kinds, as Tea-scented. They will certainly be more secure from frost taken up, potted, and placed in a cold frame; but unless the weather prove unusually severe, it is quite unnecessary, as they are as safe the first as the second year. If you take them up for potting or planting where they are to remain, you may cut the stock down to within 6 inches of the bud, and when the Roses have grown a little next spring cut the stock away entirely above the bud. We do not recommend you to take them up and pot them.

HARDINESS OF CYCLAMENS REPANDUM AND ODORATUM.—*Practical Inquirer* wishes to be informed if any reader of this JOURNAL has ever known either of these to withstand a severe frost, and to really grow out of doors in this country with any appearance of success?

EMIGRATING TO WISCONSIN (An Emigrant).—We advise you to take neither plants nor seeds on you, but to choose those which you find succeeding there. It will be more easy and less expensive to have sent out to you the few things you find defective.

**SEEDLING GERANIUM (W. S.A.).**—If constant—the leaf half green with a black zone, and the other half primrose with a pink zone—it will be unique, and be in much request.

**POTATO (Idem).**—The varieties of Potato are far too numerous for us to venture on assigning a name from seeing a single tuber. It must be of very peculiar form to enable us to do so. The foliage and flowers usually require to be seen.

**MAKING A FERNERY OF A SUMMER-HOUSE (P. B.).**—We do not see anything objectionable in your proposed alterations, so far as the growth of the Ferns is concerned; but we should prefer the continuance of the span roof on account of convenience and appearance. Your sloping roof will look odd with the wall so much higher than the bottom of the roof. It will also waste room, and make the fernery gloomy in winter. If you were to have a span roof, as at present, in the summer-house you could have Ferns in baskets suspended from the apex, and in building you could, in addition, have the corners built so that plants of pendant habit could be placed there in pots as you propose; but, instead of this, we would have a ledge of stone 34 feet from the glass, extending 1 foot into the house, and on this we would place soil with a few rough stones as an edging, and plant with Ferns having creeping rhizomes, and which would run up the wall and down also, as *Davallia discata*, *Nipholobolus rupestris*, &c., with a Stag's-horn Fern planted in each of the corners, or a pendant Fern if you like such better; 2 feet 6 inches above this, and 1 foot from the glass, we would have another ledge of stone projecting 6 inches from the wall, cover it with soil, and plant it with *Selaginella denticulata*, and other Lycopods. All round, excepting where the doorway is, we would have rockwork carried to the height of the first ledge, leaving a pathway 3 feet wide in the centre, and Ferns being suspended in baskets from the roof over the pathway, your house would have a charming appearance. Rough plate glass would be best for the roof, and the roof should fall 2 feet in 8 feet 6 inches, or the half if a span.

**PLANTING A LOW PIECE OF GROUND (A Subscriber).**—Rhododendrons do not succeed well on a limestone subsoil, so far as our experience enables us to form an opinion; but this has been more from a want of a suitable soil, and dryness, than anything there is in limestone to render it obnoxious. We find Rhododendrons do fairly planted in the interstices of limestone rockwork filled with peat, and kept moist by the drainage from the upper part. You may, therefore, plant Rhododendrons in your rich vegetable peaty mould, though there is limestone underneath, providing that it is not of a nature to burn in summer; and, though we cannot guarantee success, we think it likely. Of Ferns you may plant *Osmunda regalis*, *O. cinnamomea*, *O. interrupta*, *Oncoclea sensibilis*, *Scelopendrum* in variety, *Lastrea Filix-mas* and many of its varieties, *L. dilatata*, *L. thelypteris*, *Adiantum Filix-femina*, and *Pteris aquilina* for the drier parts. The above Ferns would do well if the soil is wet and slight shade afforded. A few plants of the Pampas Grass and of the common Sedges may be introduced with good effect.

**LAWN BURNING IN SUMMER (G. R.).**—Yarrow, or *Achillea millefolium*, which you have been recommended to sow, does well on dry gravelly soils, but we should not sow it alone, nor indeed at all, until we had tried something better, for, though it grows fast and is green enough, it is a tufty plant, and we are glad to get rid of it on our soil which is a light loam on a bed of gravel. At its best it gives a lawn a patchy appearance. We recommend you to sow during showery weather next April, after giving a dressing of rich compost, *Festuca duriuscula* (Hard Fescue Grass), 6 lbs.; *Festuca ovina* (Sheep's Fescue Grass), 2 lbs.; *Festuca tenuifolia* (Fine-leaved Fescue Grass), 4 lbs.; *Festuca rubra* (Creeping Fescue Grass), 1 lb.; *Cynosurus cristatus* (Crested Dog's-tail Grass), 4 lbs.; *Lotus corniculatus* (Bird's-foot Trefoil), 1 lb.; *Trifolium repens* (White Clover), 3 lbs.; and *Trifolium minor* (Suckling Clover), 3 lbs. per acre; avoiding the Yarrow altogether. Roll well after sowing, and obnoxious weeds being grubbed up, we think your lawn would please in a year or two.

**HELYCHUM NOT FLOWERING—PRUNING IPOOMEA HORSFALLII (J. Bayly).**—We had a plant of *Helychium Gardnerianum* that we could not induce to bloom, though it, like yours, grew amazingly every year. We grew it in the stove, but finding it not worth its room it was doomed to be thrown out and the room occupied by something better. This was in July, and the plant had then made shoots 5 or 6 feet long. In the hurry it was placed in front of a south wall, and we were surprised to find the shoots thicken rapidly. This induced us to take it in September into the stove, where it bloomed finely during the winter. Since then we have grown it in ainery till it made a good growth, and then exposed it to sun so as to ripen the wood fully, and it has always bloomed well; we keep it in a cool stove in winter. You may cut away the growths of last year when they turn yellow, leaving only those of the current year, for it is those that bloom. The weak shoots of this year may be removed, as they only tend to weaken the others. Strong well-ripened growth is necessary to ensure blooming. *Ipoomea Horsfallii* may be pruned with a long stem the height of the house, depending on the shoots that come from the spurs for bloom. Under this treatment the plant breaks strongly from the upper part, whilst the lower part, though naked, is covered by shoots trained downwards, and is thus equally in bloom with the upper part. By cutting down to the bottom of the after the shoots come strong from the bottom and grow upwards, flowering more at the top than near the bottom, unless shoots are brought down. For our part we like the latter mode of pruning, but both are good.

**VARIOUS (A Lady Subscriber).**—Inarch your Boxwood Muscat on the Frankenthall, though it would probably do as well on the Black Hamburgh. The Duchess of Buccleuch Vine is quite as easy to grow as a Muscat Hamburgh. Cox's Golden Drop Plum will do even better on a southern than on an eastern aspect. Green Overall is a good dessert Gooseberry, combining flavour with size. If you carefully plant a good-sized transplanted bush now, it ought to bear fruit next year.

**KEW BOTANIC GARDENS (U. Thoughtful).**—You had better write to Mr. Smith, Curator, Royal Botanic Garden, stating your wishes and the testimonials you can have.

**FIGS IN ORCHARD-HOUSE (M. Smith).**—Every Fig above the size of a small Pea should be cut away now, and even those left will not stand, if subjected to severe frosts without some protection. The Figs just now showing like pins' heads will do best next summer.

**BOTTOM HEAT IN CUCUMBER-PIT (W. Parnell).**—As your Cucumber-pit acts satisfactorily we say, Decidedly let well alone. The brickbats over the pipes act as conductors of heat. The tan, recommended to be substituted for them, if thick enough and fresh enough, would yield heat of itself by fermentation, but, fresh or old, it would prevent heat rising from the pipes when it becomes dry, as then it acts as a nonconductor of heat. Be content with what answers so well. The "Vine Manual" can be had free by post from our office, if you enclose thirty-two postage stamps with your address.

**CHRYSANTHEMUM LEAVES DYING OFF (W. Sanbierge).**—Chrysanthemums lose their lower leaves in autumn—1st, from an insufficient supply of water at an earlier period of the season, which causes them to mature; 2nd, from the shoots being trained too close together, thereby preventing a due amount of light and air reaching the lower leaves; and, 3rd, from being removed to a closer and warmer situation for blooming. We know of no remedy except keeping the plants well supplied with water through the summer, keeping the shoots thin, and regulated early and repeatedly during the growing season; and to house them in a cool, light, and very airy structure before very wet cold weather sets in.

**LIME TREES BARE AT THE BOTTOM (W. K. H.).**—You cannot adopt any means to make the trees break lower down without taking off their tops, and, though this would cause them to break lower down, it would be ineffectual, as they will quickly grow up, unless snekers come from the root, which will not be the case to any extent until the trees are old. You might plant some Ivy against the building, and so diminish its unsightliness; and by planting some shrubs in front of the Limes, as Yews, Laurels, Hollies, and Aucubas, the part not hidden by the Lime trees may be screened from view.

**HERBACEOUS CALCEOLARIAS FAILING—SOWING ANTIRRHINUM AND AQUILEGIA TO BLOOM NEXT YEAR (M. N.).**—We have experienced a similar dying off of herbaceous Calceolarias, which we attributed to a want of moisture in the atmosphere during the whole of September. We had others on a north aspect, along with some Runners, and none of them have gone off. We think the hot dry weather in September was the cause. You had better wait until spring, and sow the seed then in a mild hot-bed, and grow the plants on in a cold frame. They will bloom finely late in summer and in autumn. The *Aquilegia* and *Antirrhinum* seed should be sown in March in the same way as that of half hardy annuals, pricking off the seedlings into small pots when sufficiently large to handle, and when established they should be hardened off. The *Antirrhinum* will bloom finely, but we question if the bloom of the *Aquilegia* will be good. It would be better to sow the latter in May in the open ground, and take up the plants and pot them in September. The *Antirrhinums* sown in August, potted off before winter, and kept in a sheltered situation would make much finer plants.

**WHITE SCALE ON PHILEAS DUXIFOLIA (A. C. B.).**—It will be a difficult matter to dislodge the scale. Your safest plan will be to pick it off with the point of a knife. Having gone over the plant in this way, cover the surface of the pot with moss to prevent the roots being injured by the coming ordeal. Lay the plant on its side, and syringe it with water at a temperature of 140°. Turn the plant over and over again so as to let the hot water reach all the insects. Continue to remove the insects still remaining in the crevices with the point of a knife or brush, and in ten days repeat the application of hot water if requisite. This in time will clear the plant. Be careful not to deluge the pot with hot water, otherwise the roots will all perish; and if the leaves have been long infested with scale they will drop. Knowing the plant was suffering from white scale we would not have had it at a gift, much less bought it. It is creditable to sell such things.

**DESTROYING WOODLICE (E. M. H.).**—We have experienced great annoyance from woodlice in Fern culture. Our plan was to cut a raw Potato in two parts, scoop a little out of the middle with a knife, and, placing the cut part downwards on the pots or elsewhere at night, going in the morning we found them scoured in the hollow beneath the Potato, and feeding on it, and thus killed great numbers. These baits last a long time, but are better when fresh. Another and more wholesale mode of catching them is to place a boiled Potato, wrapped loosely in a little hay, at the bottom of a small flower-pot, and laying the pot on its side near their haunts. This is done at night, and in the morning the Potato is taken out and the hay dropped into a bucket of boiling water, holding it over the bucket whilst the Potato is being taken out. The woodlice when plentiful will eat the greater part of a boiled Potato in a night. Continue this for a time and their numbers will be considerably diminished. You cannot have the pots half dipped in anything poisonous without injuring the plants, but you may provide large saucers or feeders, fill them with water, invert a smaller saucer in the centre so as to have its bottom above the water, and then place the pot containing the plant upon the inverted saucer. Woodlice cannot bridge the water and attack the plant.

**LILICTIGRINUM—MUSCARI ROTYROIDES—TRITOMA CVARIA IN FLOWER-BED (A. C. C. H.).**—*Lilium tigrinum*, grows to a height of 3 or 4 feet in rich soil, and ordinarily to 3 feet. It is of the turbinate or Turk's-cap section, of good erect habit, and branching; the flowers are orange or orange-salmon with dark brown or black spots, hence its name Tiger Lily. *Muscari* (*Hyacinthus*) *botryoides* or Grape Hyacinth grows to a height of 6 inches, has long narrow Hyacinth-like leaves, and the flowers are blue and closely set on an erect spike. *Tritoma avaria* will live unprotected in beds and borders, but is better with a few inches of half-decayed leaves laid around the crown, which act as a sort of protection and assist the succeeding growth.

**NAMES OF FRUIT (Hortus).**—1, Gansel's Late Bergamot; 2, Beurre d'Emouineau; 3, Knight's Monarch; 4, marked Passe Colmar? (Winter Nelis?). (*J. F. Lombard, Dublin*).—1, Gloria Mundi; 2, Lemon Pippin; 3, Golden Winter Pearmain; 4, Summer Pearmain.

**NAMES OF PLANTS (R. W. Collingham).**—1, *Asplenium adnigrum-nigrum*; 2, *A. trichomanes*; 3, *Pteris hastata*; 4, *Doodia media*; 5, *Cytomium filiculatum*; 6 and 8, *Campyleria bauria*; 7, *Pteris longifolia*; 9, imperfect. (*J. B.*).—1 and 4, *Adiantum hispidulum*; 2, *A. pedatum*; 3, *A. formosum*; 5, *Lastrea dilatata*; 6, *L. spinulosa*. (*J. W. D.*).—*Nephrolepis tuberosa*. It has many habitats in the East Indies. (*Sophia*).—*Lastrea dilatata*. (*A. M. B.*).—*Escallonia macrantha*. (*A. B.*).—*Sonerila margaritacea*, or Pearl-coppied.



## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 4th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 29	29.991	29.116	58	44	51	50	S.W.	.12	Rain; boisterous with heavy rain; fine at night.
Mon. . . 30	29.297	29.146	53	38	51	51	S.W.	.53	Rain; heavy showers and sunshine alternately; heavy rain.
Tues. . 31	29.278	29.278	50	27	51	51	N.E.	.13	Heavy rains and boisterous; slight frost at night.
Wed. . . 1	29.952	28.826	46	22	50	51	W.	.02	Clear; rain; clear; sharp frost at night.
Thurs. . 2	29.980	29.907	53	28	49	50	S.W.	.26	Frosty and foggy; very fine; frost; rain.
Fri. . . 3	30.066	29.933	53	23	49	49½	N.W.	.00	Foggy; very fine; fine; sharp frost at night.
Sat. . . 4	30.135	30.119	51	31	48	49½	N.	.00	Foggy; clear; fine throughout.
Mean. .	29.584	29.769	52.00	40.43	49.85	50.28	....	1.06	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

## REARING CHICKENS ARTIFICIALLY.

As I consider that I was successful in rearing a stock of eight dozen chickens with very little trouble or expense, and as I owe the attempt to do so to having read the discussions on the subject in your Journal last winter, I think that I ought to say a few words in acknowledgment my success.

Being only a half-believer I did not incur much expense in the matter, merely procuring a stout box made with the lid on hinges, and close-fitting, cut on a slope like a melon-frame, one half of the lid only being glazed, and there was a hole in the side, with a sliding door. In this box I put two low stools with a thick fleecy top, for artificial mothers, and I placed the box close beside a spare large garden frame, which stood on dry ground. I had the chickens close to my flower-frames, and looked after them chiefly myself. This frame, to which I admitted them at pleasure by drawing the slide, answered for their covered run or "day room," till they were a few weeks old, when I used to allow my pets to take a run in the garden several times a day. It was quite curious to see how fond they became of the frame, and how they used to flock to me from all sides to be let in, and to bask on the warm gravel under the glass. I took each chick from the hen the day it was hatched. I had not one sickly or drooping chicken the whole summer.

The advantages I found in this system, even trying it in a small way, were these: First, they did not cost in feeding nearly so much as when carelessly fed in the fowl-yard, where stronger fowls, dogs, &c., robbed them of their milk and food. Secondly, they thrive quicker and feathered better a great deal, from getting the full share of that food appointed for them, as well as from the genial and uniform warmth of the frame, instead of being often weary and wet when enticed by the hen to walk about all day through grass and elsewhere. Thirdly, I found the hens lose so little in condition by merely twenty-one days sitting (being well fed once every day), that they laid and hatched a second time early in summer. These advantages ought to make the system worth a trial, even by those who might not count it, as I did, an amusement.—A SUBSCRIBER.

## DUCK-FOOT IN GAME—WHITE FACE OF SPANISH FOWLS.

WHATEVER may be the opinion of your readers with regard to the Poultry Club, and its management, there can be no doubt that the publication of a "Standard of Excellence," by a body composed chiefly of extensive breeders of almost all the varieties of fowls, must be of very great use to exhibitors. When any one takes to fowls as a hobby, and in order to make his hobby more attractive breeds for exhibition, he is probably at first entirely ignorant of the points most necessary to insure success. To such a tyro a "standard of excellence" is of great value, and has long been a desideratum.

There is another advantage. The difference of opinion with regard to the most valuable points in fowls must produce discussion, when the assertion of a standard calls it forth. As an example, let us instance the valuable paper which the discussion on the "duck-foot" in Game fowls has drawn from Mr. Hewitt, I never saw a more lucid or truly useful essay. In that paper, the question whether this deformity is hereditary or not is fairly discussed, and Mr. Hewitt supplies facts which seem conclusively to prove that it is so. Should other ob-

servers be able to produce similar facts, there can be no doubt about the propriety of making the possession of such a deformity a cause of disqualification.

In the "Standard of Excellence" it is clearly laid down that the face of a Spanish fowl should be free from folds and wrinkles, and that any corrugation of the face which prevents a bird from seeing is a disqualification; yet, how often do we see prizes awarded to cocks which are blind, or must be so in time; to hens with such coarse faces that it is impossible that they can produce cocks free from this troublesome defect. Every breeder of Spanish fowls knows how useless such cocks become, and that nothing but a cruel mutilation can make them able even to feed themselves. Such birds are generally useless as breeding stock after their first year. Surely such a deformity, which is decidedly hereditary, should invariably disqualify its possessor.

It would be a great boon to Spanish breeders if Mr. Hewitt would give another of his valuable papers on this subject, which is evidently not sufficiently thought of by some judges, and is a source of difficulty and doubt to those who breed Spanish fowls for exhibition.—QUALITY.

[I am obliged by the favourable opinion expressed by your correspondent, who signs himself "QUALITY," of my communication respecting the deformity of "duck-foot" in Game fowls. I also embrace the present opportunity to return my best thanks for the many courteous letters of like approval which I have received from other sources. I can only say, that if I have aided in any degree to ventilate the subject, I am satisfied that my trouble will not have been thrown away; at least, so far as it elicits the expression of opinions that might not otherwise have been made public.

Your correspondent asks me to give my own views as to the coarse corrugated faces which we frequently meet with in Spanish fowls. My ideas assimilate so very closely to those expressed by "QUALITY" himself, that to enter on the greater portion of that gentleman's details would amount to a useless recapitulation. I have, however, known a very heavy-faced Spanish cock well shown for several successive years, but he was in very careful hands. His face was kept scrupulously clean, being frequently washed with cold milk-and-water, and afterwards tenderly dusted, under the folds, with violet powder. This bird never became excoriated at all, and could see well to the end of his days, but in his late years proved an almost useless stock bird. This is, however, rather the exception from the general rule. Most of such Spanish cocks at three or four years old become hopelessly blind, and cannot feed at all, except from corn in a vessel, eating rather by the guidance of the touch than by eyesight. All specimens in this state fail entirely for procreation. Neglected faces in Spanish cocks very frequently become absolutely offensive from ulceration; certainly not a very great point for encouragement or admiration to even the fondest of Spanish amateurs, and a failing that has often caused me to pass birds unnoticed.

But if we will but look for it, we can always find a sunny as well as a dark side to everything in this world. "Cauliflower-faced" Spanish fowls, as they are commonly called, are a most useful auxiliary to keep up the size of the faces in Spanish fowls, by occasional judicious crossing, and not less so, to keep up, or rather increase, the size of their progeny; for the beautiful white kid-like faces of most specimens, if bred closely for a few years, entail a degeneracy of size in their chickens to such an extent as amounts to imperfection. The smooth delicately white face in Spanish fowls, without folds or corrugations, is quite an exhibition favourite; but I cannot go so far against the larger-sized strain as "QUALITY" suggests—viz., to at once

disqualify, simply for a development that is with them absolutely inseparable from age alone.

The chickens of the large-sized corrugated-faced Spanish fowls are invariably the most attractive at the first chicken shows of the year, and it must be ever remembered, exhibition poultry should always be judged, at *what they then are*, rather than at what they *have been*, or ultimately *may prove*. These latter also, if assiduously attended to, frequently carry out a very long course of success, but if neglected they soon fall to decay. The very fine exquisitely white-faced Spanish fowls, shown, as they sometimes are, without possessing a single fold or imperfection, require occasional "crossing," or degeneracy of both bodily size, and also of face, inevitably creeps in. The middle course between this Scylla and Charybdis in the breeding of Spanish fowls, is the one I would myself pursue were I, like your correspondent "QUALITY," and many others, to adopt as my hobby the exhibition of Spanish fowls.—EDWD. HEWITT, Sparkbrook, Birmingham.]

I do not pretend to lay down standard rules and regulations by the aid of which Game fowls are awarded prizes at our poultry exhibitions. It is evident that very often a smart dandy-looking bird is preferred to the good, old, honest fellow, who would make short work of such a puny antagonist, if pitted on the sod. This brings out the question, Whether Game fowls, when exhibited, are now to rank merely as "fancy" fowls, or to be considered the worthy descendants of forefathers whose character was "free, able, and willing," and to whom the rough work of the cock-pit seemed almost a delight?

The greatest fault of a real fighting-cock is being "cow-footed," *alias* "duck-footed." If unsuccessful at the first two or three blows, he reels just like a cock pricked by the steel in the spine, though not mortally; he cannot direct his motions, and, thus powerless, he soon bites the dust. A twisted breast, though bad enough, is often no objection to fighting; but the cow-footed cock, to use the cant phrase of collegians, may "have a large heart, but he has no understanding."—COCK-PIIT.

#### GAME-FOWL JUDGING.

AFTER a careful perusal of the communication of "JUSTITIA" on this subject in No. 239, I must confess myself at a loss to understand the object of the writer in penning it. If it is intended as a reply to my previous communication, a more signal failure cannot well be conceived. It is, however, satisfactory to find that your correspondent admits the importance of the points raised in my letter, and the advantage of a further ventilation of the subject of an honest award of prizes at poultry shows, to which it refers; and I can only say that it will give me pleasure to assist him in the process, if after the present communication he desire it; although it would involve little beyond traversing the ground gone over in the controversy on the same subject in your columns in 1863.

In noticing the more salient points in your correspondent's production I am struck with the soreness manifested by the writer. Whether he is personally interested in the matter, and feels my remarks as a personal rebuke, I will not hazard an opinion, but were such the case he could not have displayed more sensitiveness.

"JUSTITIA" designates my remarks on judging Game fowls assumptions; but as he has not ventured to controvert my positions I can only regard it as a tacit admission of his inability to disprove their correctness: the attempt to stigmatise as assumptions what he cannot answer is too transparent to mislead any one who is capable of reflection. The statement, for instance, that "a breeder and exhibitor of any length of standing must possess as correct a knowledge of the points of merit in a bird as a professional judge," he admits to be true; "such," he says, "is undoubtedly the case in some instances, although," he adds, "it does not necessarily follow that such knowledge can be either bought or rented as many prize birds are." What this last clause has to do with the one which precedes it would sorely tax the powers of "JUSTITIA" to explain. Is it intended to illustrate the exceptions which qualify his admission of the capabilities of experienced exhibitors to judge the points of merit in fowls? or is it to be taken as an example of his mode of "ventilating" the subject? Most of your readers, I apprehend, will be of opinion that so palpable a *non sequitur* speaks little for your correspondent's logical acumen, and promises less in the way of elucidating the

matter he has undertaken to write upon. As, however, he "assumes" to know the present writer, his reference to "renting prize birds" may be designed to convey a personal insinuation, particularly as he reiterates the insinuation in a subsequent part of his letter; if so, I reply that the assumption is as unfounded as it is gratuitous; and for the rest, if he knew of any exhibitor being guilty of infringing the rules by exhibiting birds which were not his own, it would have been more consistent with the character of one who writes under the signature of your correspondent to have made an open protest at the time, instead of insinuating the charge in an anonymous communication. But it not unfrequently happens that persons most ready at insinuating charges against others are guilty of the alleged practices themselves.

Then he makes allusions to a "certain Game exhibitor," whose name "does not appear in the catalogue" of the Manchester Show two years ago. Whoever the exhibitor may be to whom this refers, I apprehend he was at liberty to exhibit his birds where and when he pleased. The insinuation of birds that were his property taking prizes in other names at this Show has already been disposed of. One of the most extraordinary portions of "JUSTITIA's" communication is that where he so positively asserts that the alleged dissatisfaction with the judging of Game fowls at the Birmingham Exhibition was confined to one or two discontented exhibitors. How your correspondent could make the assertion in the face of the fact, that a vote of censure was passed by the Poultry Club on the Birmingham judging last year, in consequence of the defective decisions referred to in my previous communication, it is not easy to explain. The most charitable conclusion is that he either must not have known of or have forgotten the circumstance, which does not say much for his authority on these points; besides, were further proof required, it is supplied in the advertising columns of your Number of October 24th, from which your readers may see that a memorial on this very subject is now receiving the signatures of exhibitors.

The only other point I need notice is that relating to the retirement of Mr. Archer. At the Exhibition in question he was a more successful exhibitor than usual; whilst, on the other hand, I understood from Mr. Martin, who had charge of his birds, that his discontinuing to be an exhibitor arose from circumstances unconnected with that or any other Show. Your readers, I apprehend, will now be at no loss to judge of the weight to be attached to the statements of "JUSTITIA."—EXHIBITOR.

#### WHITE SPANISH FOWLS.

IN the Journal of September 26th are some remarks on White Spanish Fowls, which, I think, ought not to pass unchallenged. The statement is—"They were always looked upon more as pets and eccentricities than anything else, and were not largely bred. They lacked the contrast that forms the chief beauty of the Spanish, black plumage, white face, and red comb." Now, as to their being bred as pets and eccentricities; if as pets, they are deservedly so, for who can look upon them with their glossy pure white plumage, bright red faces, and pendant combs, and deny that they are beautiful? They are very docile, and have the same proper respect for a fence and disinclination to trespass as Cochins. That next word "eccentricities," I do not half like, nor do I think White Spanish deserve it so much as Black Spanish, for is not the chief beauty of Black Spanish, the white face, as great an eccentricity as any point in any other breed? I trust that brother fanciers will pardon me for calling the white face of the Black Spanish an eccentricity. I think that any distinct point in any breed should be called "a distinctive characteristic," not "an eccentricity."

For instance, no fancier would call the top-knot and beard of the Polish "an eccentricity;" but I recollect showing my Polands to a non-fancying friend, when he exclaimed, "What eccentric fellows! If they were mine I'd have them shaved!"

I will now endeavour to show that White Spanish fowls have other and greater claims to be more largely bred and patronised. One writer describes them as being "very precocious;" and my experience for the last three years proves that they are so; for having bred Dorkings, Game, Polands, Hamburgs, and Black Minorcas, the White Spanish pullets have all commenced laying at from four to six weeks younger than either of the other breeds. Many persons near Torquay keep the White Spanish, and all agree that they are very early and very good layers.

They were first brought here by Mr. Tordiffe, who purchase



a splendid prize pen, and I do not think any new blood has been introduced for the last five years; but I have now secured a cockerel and pullet from Mr. H. Leworthy, who purchased Miss Northcote's celebrated stud, and in another year I hope to hear my White Spanish crowing victory in the "any other variety" class at some of our best shows.—CHAS. DRAKE.

### REJOINDER FROM THE TURKEYS AT CALNE.

MR. HEATH'S virtual acknowledgment of the justice of our complaint of the discomfort we experienced at Calne inspires us with the hope of redress in future; but we cannot accept his plea for leniency on behalf of small shows when their entrance-fees are the same as at large ones; and surely we should do more credit to any show that invites us to exhibit if every advantage were afforded us for that purpose. We also feel aggrieved at Mr. Heath's doubt of our veracity. We remember with gratitude the kindly act of a visitor at Calne, who drew some empty baskets over our pens to shade us from the fierce rays of the sun; whilst we fear the equally kind act of another visitor, who, *being able* to reach the top row of Pigeons affixed the commendatory cards to them, has been forgotten by at least "one of the Committee."—THE TURKEY PRISONERS AT CALNE.

### BRAHMA POOTRAS.

Your correspondent "D. P. P." has raised the question as to the original colour of the Brahma Pootra fowl, and asks which variety is the genuine one. In reply, I beg to call his attention to the following quotations which have reference to the earliest-known specimens of the breed:—"The colour of the body is white, with the slightest possible tinge of gold, the hackle being dark grey, and the primary wing feathers and tail glossy black, with resplendent tints of green. The hen matches in colour, the hackle, wings, and tail being dark grey."—(Quotation from "Profitable Poultry" given in Martin Doyle's "Domestic Poultry," page 44.)

"I have a pair of Brahma Pootra fowls of the same breed as those sold by Dr. J. C. Bennett, and I consider them decidedly the most splendid and beautiful fowls ever imported. Their colour is *white*, inclining on the back to a rich cream colour; the hackles on the neck slightly streaked with black; the legs are yellow, heavily feathered with white," &c.—(Quotation from a letter of the Rev. R. W. Fuller, given in Miss E. Watt's "Poultry-Yard," page 62.)

My third extract, from the same work, shall be Dr. Bennett's own description of the Brahma Pootra fowl:—"The cock is mostly *white*, with neck-hackles pencilled with black, and rump-hackles of the palest possible shade of straw colour; the tail is black, with glossy green plume feathers; the wings pencilled with black. The pullets are *white*, with black tails; the wings and neck slightly pencilled with black," &c.

I will leave it for the advocates of the Dark Brahma to account to "D. P. P." for the suspicious resemblance between the cock of that variety and one crossed between the Grey Dorking and a Light Brahma hen; and, without condemning the Dark birds, I can only assure "D. P. P." that if he possesses Light Brahmas, such as those described above, he will find them to have all the characteristics of a pure and genuine breed, and if he keeps them for years

"The warm blood in blushing streams will run,  
Ceaseless and stainless down from sire to son."

—BRAHMA POOTRA.

### LIGHT BRAHMA POOTRAS AT CALNE.

AM I to understand by "WILTSHIRE RECTOR'S" article on the Calne Poultry Show, that Mr. Pares took first and second prizes in the chicken class for light Brahmas? I quote the Rector's own words. "The Brahmas mustered strongly, including chickens. A promising pen of the latter, belonging to Mr. Hinton, took a prize; and Mr. Pares was first and second with light Brahmas, heavy into the bargain."

On reference to the prize list, in the light Brahma class for chickens, Mr. Lacy took first, and Mr. (Sheerman second. Mr. Pares also exhibited two pens, neither of which was noticed.—AN EXHIBITOR.

["AN EXHIBITOR" is not to understand that Mr. Pares took

first and second prizes in the *chicken* class for light Brahmas at the Calne Show. By the term "latter," I referred to Brahmas as distinguished from Spanish, for neither Mr. Hinton's chickens nor those of Mr. Pares took a prize, while in adult birds those gentlemen, as I have stated, took first, and first and second, in the order I have written. I did not think any of the Brahma chickens of sufficient merit to demand a special notice in a second paper on the same Show. I had the official catalogue before me when I wrote. I have been away from home the last fortnight, and although "AN EXHIBITOR'S" letter was forwarded to me, yet as I had not the copy either of "The Journal," of my country paper, or the catalogue of the Show with me, I could not reply until my return. I may add, that I never send catalogues, they go to "The Journal" from other sources. My papers on shows are meant to supplement the usual reports, and to keep up and spread the love of poultry among ladies and gentlemen, and I am gratified to learn that sometimes they do this. My rule is only to name those birds that I deem extra meritorious.

I was very glad to see that Mr. A. Heath made clearer an expression of mine about the tents. The exhibition tents were excellent, both were reared all in good time, and both Pigeons and poultry were well housed, even had the weather become cold or wet. I hope Calne will have an annual Show. The dilatoriness, which I know the Committee lamented as much as myself, need never occur again. What is done every year is sure by practice to be done well. We must not lose a single show from this neighbourhood. May prosperity rest upon that of Calne!—WILTSHIRE RECTOR.]

### BEE-KEEPING IN DEVON.—No. XXVI.

ABNORMAL DRONE-PRODUCTION—LATE-BRED QUEENS—MARAUDERS ATTACK QUEENS—VALUE OF SMALL DRONES.

SOME singular phenomena in connection with drone-breeding have recently occurred in my apiary, a description of which may prove acceptable to the readers of "our Journal."

Before entering into particulars, it may not be amiss to state what has already been discovered with regard to the phenomenon of drone-breeding queens.

Huber appears to have been the original observer of this extraordinary fact, and having first remarked in the case of queens confined to their lives (in which state there seems no reason to doubt they are perfectly incapable of obtaining intercourse with the males, however numerous these may happen to be within the hive at the time), he instituted a series of careful experiments, the results of which warranted him in ascribing to retarded impregnation the remarkable circumstance of the occasional existence of queens, which, during the whole of their lives, remained incapable of laying any eggs other than those which would produce male bees or drones; and he ultimately laid it down as an axiom, that queen bees whose fecundation has been delayed until after the twentieth day of their existence must perforce turn out drone-breeders.

This conclusion was very generally accepted until Dzierzon, the great German apiarian, promulgated the theory that all drone-breeding queens were in reality virgins, and that even in the case of impregnated queens all eggs that would produce drones are in point of fact unfecundated eggs, whilst those only that would produce workers or queens are fecundated by the voluntary action of the queen herself prior to their being deposited in the cells. This theory was investigated and confirmed by Von Siebold, the distinguished German naturalist, who demonstrated beyond the possibility of a doubt the fact of parthenogenesis in the honey-bee. Having myself repeated and verified most of the experiments and investigations of Von Siebold, I can bear witness to the soundness of his conclusions; but as the subject has already been more than sufficiently discussed in these pages, I would refer those who are interested in it to Von Siebold's "True Parthenogenesis in Moths and Bees," a translation of which by Mr. Dallas has been published by Van Voorst, and to Nos. 25 and 30 of THE JOURNAL OF HORTICULTURE.

With regard to the fecundity of one of his drone-breeding queens, Huber remarks that it was "astonishing." My own experience in this respect is, however, directly at variance with that of my illustrious predecessor, no drone-breeder that I have ever met with having displayed anything approaching the breeding powers possessed by an ordinary impregnated queen.

Mr. Langstroth, the eminent American apiarian, relates an instance in which a young queen inhabiting a hive with a



contracted and obscure entrance, commenced laying drone eggs only, but after being removed to a hive of a different construction she gradually left off drone-breeding, and deposited the eggs of workers in the usual manner. Reasoning on these facts, he asks, "Is there any reason to doubt that these drone eggs were laid by the queen before, and the worker eggs after, her impregnation?" To this question I should, only a few weeks ago, have replied that there is the greatest reason for doubting it, and that as far as my observations extend, when once egg-laying commences either in the virgin or impregnated queen bee, all disposition to seek intercourse with the male is for ever at an end. It is, however, but justice to Mr. Langstroth to state that circumstances have recently come under my observation which tend to throw doubts on the conclusion at which I had arrived on this point, and, at the same time, confirm the views of my trans-Atlantic contemporary. What these circumstances were will be related in due course.

I once witnessed an instance in which a young queen began by laying a large patch of drone brood in worker cells, and another in which worker and drone brood was most singularly intermixed. In both these cases, which were related in "our Journal" at the time, this abnormal drone production soon came to an end, and workers only were bred in the ordinary manner. My own theory is, that in both these queens there was some slight temporary defect in the action of the delicate voluntary muscles which regulate the fecundation, and consequent sex, of the eggs before they are deposited, which defect disappeared as they advanced in age.

To come then to more recent experience. A fine Ligurian queen, artificially reared and hatched on the 8th of June, laid eggs on the tenth day, which turned out to be, for the most part, those of drones, interspersed with a few workers. This phenomenon continued throughout the summer until the population of her hive having become very much diminished, I added to it the inhabitants of a condemned stock, ultimately destroying its quasi-mother and substituting for her a fertile Ligurian queen. Although this drone-breeder was never very prolific, and laid all her eggs in worker cells, the small drones produced by her have turned out extremely valuable, as we shall see.

Peculiar circumstances, which I need not at present make public, but which, being of absorbing interest to myself, will, I doubt not, when related at no very distant period, excite some attention in the apiarian world, have induced me to raise a few young queens rather late in the season, and to watch them with more than ordinary vigilance. As their history has been attended by some curious facts, a succinct narrative may not be without interest.

The first, hatched on the 22nd of August, the fifteenth day after the formation of the artificial swarm, laid eggs on the 9th of September, being then eighteen days old, and is now at the head of a strong colony, built up by the gradual and careful addition of broodcombs.

The second, hatched the same day and from the same brood-comb as the preceding, fell a victim to a regicidal attack, as related in page 268, on her return from an apparently successful wedding flight, being at the time but thirteen days old.

The third, hatched on the 24th of August (the eleventh day), did not lay eggs until the 25th of September, having then attained the mature age of thirty-two days! As two days is the general time which elapses between fecundation and actual egg-laying, it follows that she must have exceeded by about ten days the before-mentioned limit prescribed by the immortal Huber. Notwithstanding this delay she has turned out perfectly fertile, and has recruited the waning population of her hive by the welcome addition of a goodly multitude of late-bred workers.

The fourth, hatched 5th of September (the eleventh day), laid eggs on the 24th of September, being nineteen days old. The season being so far advanced, it was of course necessary to increase the scanty population of these late-formed stocks as rapidly as possible by the addition of broodcombs from other colonies. No sooner, therefore, was the welcome fact ascertained that egg-laying had fairly commenced, than I set to work to shift this small colony into a full-sized hive with the view of affording sufficient room for the accommodation of additional broodcombs. The day happened to be very warm, and, in defiance of Dr. Cumming, marauding bees were provokingly numerous. I therefore expedited proceedings as much as possible, consistently with keeping a bright look-out for the juvenile matron, for whose safety I was necessarily most anxious. Comb after comb was lifted out, carefully scanned,

and transferred to the new domicile, but all in vain, no queen could I see, and, dreading a repetition of the operation in the face of so many foes and equally fearing to leave her fate in uncertainty, I anxiously examined the few stragglers remaining in the now unfurnished habitation. Amongst them, to my great joy, appeared the missing queen, which I at once carefully took up in my hand with the view of transferring her to her new habitation. Whilst in the very act of doing this, she was pounced upon by a marauding bee, locked in whose dire embrace she rolled to the bottom of the new hive, the bees in which were now in a state of the utmost agitation from the removal and the incessant attacks of a fast-increasing cloud of marauders! What was now to be done? Nothing, but again to lift out the combs and rescue the queen, if haply she had not already received some fatal injury. This was effected as rapidly as possible, and the poor queen appeared still locked in the deadly embrace of her foe. Taking both in my hand, I quickly crushed the life out of the aggressor, and most apiarians will, I think, sympathise with the feeling of relief I experienced at finding that the royal and inoffending object of this fierce attack had escaped uninjured. Her troubles were, however, not yet entirely over, for scarcely had I freed her from the mandibles of her first antagonist, which still kept their hold with bull-dog-like tenacity even when the body to which they had belonged was crushed into a shapeless mass, than, whilst still in my hand, she was laid hold of by another marauder. To this would-be regicide I speedily administered the *coup de grace*, popped the queen between a couple of the exposed combs, and covered the hive with its crown-board as speedily as possible. Its entrance having also been contracted, a vigorous resistance was now offered to the marauders, who, finding their efforts unavailing, speedily desisted from the attack. This occurrence, whilst it proves that marauding bees will readily assail the queens of such hives as they are desirous of plundering, scarcely seems to me to bear out the theory that such assaults by isolated stragglers are the cause to which we must attribute regicidal attacks on queens by their own workers, since it cannot fail to be observed that whilst this distressed monarch was struggling with her would-be assassin in her own hive and amidst her own subjects, although not one attempted to aid her, there was at the same time not the slightest symptom of any tendency among them to what has been not inaptly termed "the regicidal frenzy."

The fifth queen, hatched on the same day as the fourth, has developed some extraordinary phenomena, which have caused me, as before intimated, to modify the views I had previously entertained with regard to the indisposition of virgin queens to seek intercourse with the males when egg-laying has once been fairly commenced. When she was about ten days old I noticed a single egg in a worker cell, which appeared to be the signal for the destruction of a few full-sized drones which existed in the hive at the time. More eggs were gradually deposited in the adjoining cells, and all receiving the raised convex coverings appropriate to drones, whilst the abdomen of the queen (a very small one) remained undistended. I doubted not that she would turn out a confirmed drone-breeder. When rather over twenty days old, I noticed, much to my astonishment, a remarkable change in her appearance, which suddenly assumed the graceful degree of *embonpoint* proper to an impregnated queen. This was accompanied by an equally notable change in the manner of her oviposition, which, from being sparse and unequal, became copious and regular. Soon afterwards it also became evident that her progeny would not be entirely of the male sex, a few cells of worker brood appearing here and there amidst the protruding cradles of the drones; and this proportion has gradually and steadily increased until, I have every reason to believe, she has assumed the status of a fully-developed queen, breeding workers only, as is proper at this season. I need hardly say that I have watched the phenomena exhibited by this queen with the most lively interest—an interest which has not been diminished by the fact that they have upset an opinion long held by me, and heretofore promulgated in these pages. I might, of course, preserve my theory intact by ascribing the production of drone eggs to the presence of fertile workers, but all the probabilities appear to be so much the other way, that I am impelled to the conviction that this queen commenced laying male eggs whilst yet a virgin, and that after impregnation drone-production diminished and ultimately ceased entirely.

The sixth succeeded her hapless sister before referred to as having fallen a victim to a regicidal attack by her own workers. She was hatched on the 6th September (the twelfth day), and



escaping the sad fate of her predecessor, laid eggs, I believe, when twenty-one days old. I am, however, unable to fix the date with absolute certainty, having added a brood-comb about the same time containing eggs recently laid by another queen.

The seventh, hatched the same day as the sixth, laid eggs on the 28th of September, being then twenty-two days old.

The eighth, hatched 7th September (thirteenth day), laid eggs on the 29th of September, being twenty-two days old.

It will be perceived, therefore, that I have been successful with seven out of my eight late-bred queens, all of which are now at the head of good stocks, and, what is not a little curious, all have been fecundated by small drones bred in worker cells. It is true that during the first half of the month of September I possessed a very few full-sized drones, but these being in the hive presided over by the fifth queen, were turned out and destroyed by the workers, as before stated, immediately on her first laying drone eggs. I have the strongest reasons for believing that the drones in every hive in my neighbourhood had been destroyed long ago, and have, therefore, no doubt whatever that, at any rate, all except the first (and most probably this one also) of these late-bred queens owe their impregnation to the abnormal drone offspring of the Ligurian queen above referred to. This fact confirms the conclusion to which the *post-mortem* examination of small drones had already impelled me—viz., that notwithstanding their diminutive size, they are perfectly competent to the performance of every male function.—A DEVONSHIRE BEE-KEEPER.

### NUTT'S COLLATERAL HIVES.

In answer to "W. W." respecting any information on the management of Nutt's collateral hives, and that being the only kind in my apiary, it is with great pleasure that I offer him my experience for the last five years with them. First, then, we will suppose him to begin with a stock in the pavilion in spring; and as soon as he perceives that they begin to increase in numbers—say early in May, take one of the side boxes and fix a nice piece of clean comb to the roof or frame, or dress it with a little syrup. Having replaced the box in its position, and made all secure, withdraw the dividing-tin, and if it is a mild spring the bees will commence building combs in a short time. When you perceive that they have three-parts filled the box with comb, treat the other box in a similar manner; but be sure to keep the ventilators closed in the side boxes till the bees have begun working in them for a few days, when they may be opened gradually as the warm weather advances, the object of the inventor being to prevent swarming, and to obtain pure honey by means of the ventilation in the side boxes. The only instance that I know of a Nutt's hive swarming was in the summer of the present year, when a friend of mine, on leaving home for a few days, neglected to draw up the tin of the second box, when it threw a small swarm, but this returned to the hive again in the evening.

I would advise "W. W." to adopt the suggestions which our valuable Editor gave me two years ago, and which I have adopted with success—that is, to fit his collateral boxes with bars or frames; by so doing he can make artificial swarms, take a comb of honey, or strengthen a weak stock, as circumstances require. I may add, in conclusion, that my hives and boxes are rather smaller than the size stated by "W. W.," and I make them all myself of a winter's evening. There is but one entrance, and that in the floorboard under the middle box, which latter I never move only to clean the floorboard in spring and again in autumn, when I take off the side boxes, and if "W. W." or Mr. S. Brierley, chance to be in my neighbourhood, I shall feel much pleasure in showing them my apiary and all connected with it.—T. SEDGLEY.

### OUR LETTER BOX.

**DUCK-FOOTED GAME (Novice).**—If you refer to our No. 225, published on the 18th of July, you will find at page 53 not only a description but a drawing of the deformity.

**COCHIN-CHINAS WITH CROOKED TAILS (Eboracum).**—No ailment in poultry is more hereditary than this deformity, which arises from spinal curvature. On no account breed from any bird with this malformation. We advise you to add fresh blood to your stock. The deformity is probably derived from the cock you mention who carries his tail on one side when walking. As you have no other, and as he does not so carry his tail when at rest, you may be successful with him in the exhibition pen.

**BRARMA POOTRA HEN (A. H. D.).**—This hen with a hanging abdomen we fear will never recover, she is ruptured, and has also disease of the egg organs. If she do not die, she will never lay, and is, therefore, valueless.

**FEEDING TURKEYS FOR EXHIBITION (Retriever).**—Keep your Turkeys in a small place, and feed them generously on ground oats and a little bean meal slaked in water. Where a number are kept, a pig trough is a good thing to feed them out of, and a pig sty is not a bad place, if the sheltered part is high enough for them to roost comfortably. They must have plenty of clean straw that they may not injure their plumage. A cock and two hens to exhibit with good hope of success should weigh, if old birds, from 54 lbs. to 60 lbs., if birds of the year, 40 lbs. to 45 lbs.

**POINTS IN ROUEN DUCKS (Idem).**—Rouen Ducks should be exactly like Wild Ducks but larger. The bill of the drake should be yellow, washed over with light sea green, so lightly as to allow the yellow to be seen through it. That of the Duck should be yellow with a dark mark on it, like that on a horse bean. They should weigh from 7 lbs. to 7½ lbs. each. The Ducks must have no white whatever in their plumage; the Drake only the ring round his neck, no white feathers in the wings. Feed them on oats, gravel, and you may give some raw flesh if you will.

**GOLDEN-PENCILLED AND SILVER-PENCILLED HAMBURGH COCKS (W. B.).**—The comb is one of the principal points of a Pencilled Hamburgh cock. It must be full of points, well piked behind, and turning upwards, quite firm on the skull. The colour of his plumage should be rich; the tail ample, and with black ground; the principal feathers edged with gold or silver as the breed may be; bright blue legs, and cheerful carriage.

**PIGEONS UNWELL (J. T. Cooke).**—As your Pigeons do not moult freely, it may be as well to alter their diet. Leave off the beans and barley for a time, and give wheat and buckwheat for a change. A little hempseed may assist them. I suppose your Pigeons are sheltered from the cold winds, and have access to water for bathing. As to canker in the mouth I think it arises from an impure state of the blood, and is, I think, also infectious. See that the mice do not taint the food, that their water is clean, and let them have salt to peck. If they have not been accustomed to salt you must be careful first, otherwise they may be so greedy after it, as to eat more than is good for them. Cleanliness will assist their recovery. You can dissolve some chlorate of potash in hot water and mix with their drink, let them have only that to drink for two or three days, then wait a day or two and try it again. As to a local application to the diseased parts, after removing the pus, rub in salt or touch with caustic.—B. P. BRENT.

**PIGEON-COTE ON A POLE (Pi! John!).**—Mr. Rogers, of the City Road, makes this sort of Pigeon-cote, but such are only fitted for the hardier sorts, and those that do not breed in cold weather. They may be made square, octagonal, or circular, and two, three, or four stores high, with some finish to the top. The square form is, perhaps, the best, as the nest places can then also be made square, and they should be 9 or 10 inches inside. The other shapes are not so commodious on account of the nests all going off to a point towards the centre of the cote. We would recommend in preference a loft over the stable, and the entrance to the southward may be made as ornamental as you please.—B. P. BRENT.

**TURBIT PIGEONS WITH MOUSTACHE (J. R. Robinson).**—There is a breed of Pigeons in Germany resembling Turbits having the moustache like the Trumpeter, and I have no doubt that breed originated in the mixture of those two varieties. The continental Pigeon fanciers are very fond of making varieties by crossing and combining the different properties of various sorts in the same individuals. Thus they breed Jacobins with the addition of the moustache, Barbs with the ruff of the Turbit, Fantails with silky plumage, &c. No doubt Mr. Robinson's Turbits have some German blood in their veins, and that some ancestor many generations back had the moustache which has just now reappeared. Should he continue to breed from the same old ones he will most likely have some more young ones with the moustache, and should he be successful in rearing a pair he may then be able to establish a new variety of Turbit. I have a pair of feather-footed Black Mottled Rollers. They are paired, mother and son, and first-rate Rollers, yet last year they threw a Red Mottled cock with turned crown, and this year they have again a turned-crown nearly black young one. If any one has a desire to breed a variety of Rollers with turned crowns, these two are at their service. Their parents tumble so much that they cannot fly well.—B. P. BRENT.

**FLYING PIGEONS (S. A. C.).**—Not having seen your Pigeons, and as you give no description of them, I cannot tell what sort they are. You had better obtain the "Pigeon Book," published at this office, and sent free by post for nineteen postage stamps. That will enable you to find out what sort they are, and gives more information than space can be found for here. The only Pigeon I know of by the name of Ruff, is a coarse Jacobin, and these are the worst of flyers. You must not attempt to fly them with the Tumblers. If what you call sandy are Short-faced Almonds, as you have been told, they are too delicate for long or high flying; but you can train your Blue Tumblers as directed in answer to "HIGH-FLYER," last week. If you persevere with them for a few months after they have their new feathers and full wings without success, you had better put them in a pie and buy a better sort. Some of the common Tumblers have no dash in them, and are so lazy that it is only waste of time to try and train them. Obtain a few well-trained birds of a good flying breed, so much depends on pedigree.—B. P. BRENT.

**PULLETS LAYING—PROFITABLE BREEDS (Idem).**—Pullets commence laying from five to nine months old, according to the time of year at which they are hatched. As to the sort to keep, so much depends on fancy that you had better have the "Poultry Book," which will shortly be published, and choose for yourself. All are good under favourable circumstances, none will succeed in adverse ones. If your space is confined, and you only require eggs, Spanish or Polish will suit you; but if you want chickens then Shanghaes, either Cochins or Brahmas. If you have an extensive run, then the rose-combed everlasting layers, commonly called Hamburgs, will produce the most eggs. For general purposes I prefer White Dorkings.—B. P. BRENT.

**WOOD FOR HIVES (Israel Todd).**—Red deal, well seasoned, and fully three-fourths of an inch thick, is suitable for making wooden hives.

### LONDON MARKETS.—NOVEMBER 6.

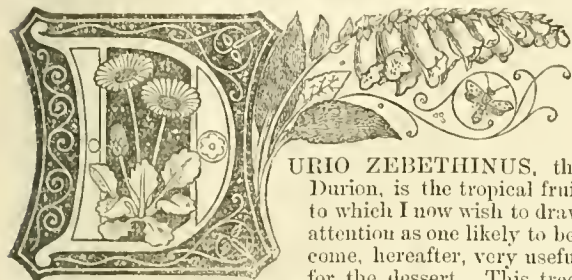
	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	3	0	3	6	Grouse .....	1	6	2	0
Smaller do. ....	2	0	2	6	Partridges .....	1	2	1	6
Chickens .....	1	6	1	9	Hares .....	2	6	3	0
Geese .....	6	0	6	6	Rabbits .....	1	4	1	5
Ducks .....	2	0	2	3	Wild do.....	0	8	0	9
Pheasants .....	2	0	2	6	Pigeons .....	0	8	0	6

## WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 14—20, 1865.	Average Temperature near London.			Rain in last 33 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	s.
14	Tu	Beech leafless.	48.1	33.8	40.9	19	19	47	11	44	1	3	35	2	26	15	22
15	W	Larch leaves fall.	48.6	34.6	41.6	16	21	7	9	4	3	4	58	2	27	15	12
16	Th	Teal arrives.	48.7	33.1	40.4	13	22	7	8	4	6	5	24	3	28	15	1
17	F	Wood Pigeons congregate.	47.7	34.1	40.4	17	24	7	6	4	9	6	53	3	29	14	49
18	S	Redwing arrives.	47.8	33.1	40.1	19	26	7	5	4	8	7	27	4	29	14	36
19	SUN	23 SUNDAY AFTER TRINITY.	48.5	33.8	41.1	16	27	7	4	4	8	8	6	5	1	14	23
20	M	Pyraeantha berries turn orange.	48.8	34.8	41.8	13	29	7	3	4	1	9	53	5	2	14	8

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 48.3°, and its night temperature 33.9°. The greatest heat was 62½°, on the 16th, 1840; and the lowest cold, 18°, on the 15th, 1849. The greatest fall of rain was 1.24 inch.

## THE DURIOR.



**DURIOR ZEBETHINUS**, the Durior, is the tropical fruit to which I now wish to draw attention as one likely to become, hereafter, very useful for the dessert. This tree,

of which there are many varieties, is a native of the warmest parts of southern Asia, where it grows very rapidly, and attains the height of 30 feet. The leaves are about 4 inches long, very smooth at the edges, and shaped somewhat like those of an Apple. The flowers, large and fragrant, are produced in small bunches, and are of a yellow colour. The fruit, which is covered with a hard knotty rind, is about the size of a child's head, and is not unlike a Chestnut in appearance; when ripe it becomes of a dark yellow, and cracks at the top. Inside, the fruit contains five or six large cells filled with the pulp mixed with seeds. This pulp or cream is of a pure white colour, very thick, and highly nutritious; the taste is peculiar, but very agreeable, and although of the very richest nature never pall upon the appetite, or injures the most delicate digestion. For an invalid the fruit is invaluable, its only drawback being the disagreeable odour when ripe.

When growing the Durior for fruit, it should be planted out in a border within the stove, and is best trained up the roof like a Vine; indeed, where the room can be spared, an entire house should be devoted to its culture, as few plants will thrive under the shade it causes. When in full bearing such a house presents a striking appearance, the large fruit hanging down in all stages of growth from amongst the leaves and flowers.

Unlike the Mango and Mangosteen, this tree requires a season of complete rest, and directly the fruit is all off, which will be by the end of November, the temperature should be at once reduced, lowering it to from 60° to 65° by day, and from 55° to 60° by night. No water must be given unless the border becomes very dry. Never mind a few leaves falling, the trees will be all right, and the better for it in the next spring, as it is vain to expect fruit on the Durior unless the tree has previously had at least two months' rest.

Towards the middle of February the trees will start again, and the temperature must then be raised to from 75° to 80° by day, and from 65° to 70° by night, at the same time keeping the house close and moist, and watering the plants frequently. When the flowers open the temperature may again rise to from 85° to 90° by day, and from 80° to 85° by night, giving air freely in fine weather, and occasionally syringing the trees overhead.

The flowers will set freely, and little attention will be needed until the fruit is half grown, or about the size of an

Apple. This is a critical time with the Durior, as much fruit will then fall off, sometimes nearly the whole crop. The only way to prevent this is by maintaining a high temperature, and, at the same time, admitting plenty of fresh air, care being taken that the air is well warmed by passing over the hot-water pipes or due before it reaches the trees, as the least chill stops the new growth, and materially injures the fruit.

As the fruit ripens the heat may range between 90° and 95° by day, or even higher, and 80° and 85° by night. It is of the greatest importance that the trees at this time should be frequently syringed—twice a-day will be by no means too often; unless this is done the smell of the ripe fruit will be very strong and revolting. The crop will continue ripening for some weeks, all stages of the fruit being seen on the trees at the same time. When ripe the fruit must be cut, or it will soon putrefy, and affect the rest; by not attending to this many fine fruit may be lost. It should also be eaten fresh from the tree, as it very rapidly deteriorates, and will not keep more than twenty-four hours. If it is wished to send some of the fruit to a distance it should be cut before it is quite ripe, and it will then keep two or three days.

On account of the great size and weight of the fruit it is advisable to give it some support just before it ripens; this may easily be managed by tying it up to the tree with two pieces of matting, about an inch wide, placed crosswise under the fruit, and tied over the branch.

The border in which the Durior is planted should be the entire length of the house, about 3 feet wide, 18 inches deep, and well drained. As this fruit delights in rich food, the soil should consist of one half good leaf mould, one quarter sandy loam, and one quarter rotten manure taken from a spent hotbed. These ingredients, thoroughly mixed together, should be sifted through a sieve, adding now and then a little charcoal, broken into pieces the size of a hazel nut, and a few whole bones. In planting be careful to spread out the roots, pressing the soil firmly around the trees. When once fairly established the trees will require very little attention beyond renewing the top soil occasionally, and keeping the roots well watered. For a house 20 feet long two trees will be quite sufficient.

The Durior, though by no means so handsome a tree as the Mangosteen, is, when loaded with fruit, a very beautiful object; the flowers, too, are very fragrant, emitting a peculiarly grateful scent. The fruit is particularly valuable for invalids, uniting, as it does, in itself the flavour of a delicious fruit with that of a delicate animal food; it is also very useful for the dessert; and as it bears freely with proper treatment, and grows rapidly after the first year or two, it is, I think, well worthy of cultivation.

One thing which baffles me is the pruning, and I have little doubt that from not doing this properly I have lost a good deal of fruit. The Durior is a puzzling tree, sometimes bearing from the young wood, and sometimes from the older branches. One tree will also occasionally bear entirely from new wood, while its neighbour bears from the old, or, more frequently, from both. The mode I have hitherto adopted is to train a stem up each rafter (the



rafters are 3 feet apart), and allow the new wood to grow out on either side from the main branches, cutting back every alternate shoot to the rafter branch each year. By this means I have obtained a fair amount of fruit; but I feel certain that did I fully understand the nature and habits of the tree I should have more. Perhaps some correspondent would kindly throw a little light on the subject, as there seems to me no fixed law in the matter.

The Durion is difficult to propagate, as it is a long time in coming to a fruiting state from seed, and cuttings are very shy of striking. The best way seems to be to peg down a branch to the soil, first cracking, but not breaking, the bough where it touches the earth, and covering it over with a little mould. When rooted plant it in a pot, and plunge into a brisk bottom heat; it will, when once established, grow freely. A tree raised from seed will not bear under five or six years.

I had almost forgotten to mention that the fruit must never be cut with a steel knife, and should be eaten at dessert with bone or ivory spoons, in preference to silver ones.—J. H.

## CULTIVATION OF THE VINE.

(Continued from page 8.)

Most of the foliage will now have fallen off the Vines in the early house, and when this is the case lose no time in pruning; but care must be taken in performing this operation not to split the shoot in cutting. Avoid using scissors for pruning the Vine; these have a tendency to bruise the shoot for an inch or more below the cut, and when the Vines are syringed afterwards in the course of forcing, the water often runs down the shattered wood, and in many instances destroys the bud at the base of the shoot, and with it the prospect of a crop. The bud that would in due course have shown one or two bunches of fruit is by these means destroyed, to be replaced by two or more wood-buds. I am no advocate for the pruning-scissors at all, except for very rough pruning, such as Roses, and in this case I always use a sharp knife after them, taking care to cut off all the part that has been shattered by them. The safest way is to first shorten the shoot down to about the fourth or fifth eye; the remainder of the shoot can then be taken off with less fear of injury to the fruit-bud. I invariably keep a sharp knife for finishing off with. After I have gone over one Vine and shortened all the shoots as described above, I commence at the base of the Vine, holding the thumb and forefinger of the left hand firmly pressed against the shoot, pressing the thumb firmly against that part of it where the cut is finished. If this is not done a portion of the shoot is often split off, and with it one of the best buds. I mention this particularly here, so that those who have not had sufficient practice may save themselves a large amount of disappointment. I always prune down to the best prominent eye.

In about three weeks after the Vines are pruned, if the house is intended to be started in the first week in December, the border should have a good soaking with tepid water, and if the roots are outside, 18 inches or so of leaves should be laid on the border to encourage root-action, before the house is shut up, and the Vines should be syringed; this will cause them to break with greater regularity and stronger.

The leaves should be turned and well shaken about once every fortnight to prevent their becoming too hot, and if the heat in them is decreasing too rapidly, more leaves should be added. Something in the shape of wooden shutters, or a tarpauling should be placed over the leaves for the purpose of keeping out the rain from them. A trial stick should also be pushed in the bed, which should be frequently examined to ascertain the temperature. Towards the spring the leaves and other fermenting material should be turned as often as once a week to prevent the roots from coming up from the border into them. If this is not well looked after the Vines may suffer much injury in consequence of their making so many of those fleshy roots which only feed the Vine with more sap than it can make use of; then loss of colour, shanking, and many other evils follow.

I should have stated before, that I do not see any necessity for daubing the Vines over with the usual mixture of clay, cow-dung, &c.; if a little of the old bark is peeled off, that I consider is all that is necessary, and great care should be taken in performing this. I have often seen people scraping and poking out the little bits of old bark at the base of the shoot; the only good this does is to make the Vines look a little better. More or less of the buds are sure to be sacrificed during this

operation, according to the skill of the operator. This, then, should be avoided by all means. Should any of the Vines bleed, which is sometimes the case as soon as their roots begin to work, a little dry Portland cement dashed over the cut once or twice will stop it.

The Vines, as soon as the house is shut up, should be liberated from the trellis, so that the top of the Vine may be a little lower than the base. This prevents the sap from flowing too rapidly to the top, and causes them to break more regularly. As soon, however, as the shoots are 2 inches or so long, the Vines should be gradually tied-up, still leaving the point a little the lowest, providing there is head-room. As the Vine progresses, breaking from the base upwards, raise it higher and higher until you have it in its proper position. The house should be frequently syringed when first shut up, and the temperature should range between 45° and 50°, giving during this time all the air possible, but scrupulously avoiding direct draughts and currents of wind through the house. This temperature may be continued for three weeks, when the Vines will begin to show symptoms of pushing very slightly; the temperature may then be increased a few degrees in the middle of the day. Keep all the air on that can be given with safety. About the first week in January they will show unmistakable signs of moving, green leaves will soon be visible, and after these the short, stubby, bunches of fruit. After this the temperature should never be allowed to sink below 50° at night, and 55° in the day; with the sun it may be allowed to rise to 65° or 70°, providing there is plenty of air on at the time. The syringe should be freely used up to this time, and twice or thrice a-day up to the time of flowering, when syringing the Vines should be altogether discontinued, but the passages, walls of the house, &c., should be syringed freely.

I know that I am treading on dangerous ground here, for some advocate the use of the syringe up to the time of the Grapes colouring—my friend Mr. Whittle, to wit, to whom I am greatly obliged for his kind invitation, and I assure him that I appreciate his kindness very much, and shall most certainly accept his offer on the very first opportunity.

I had great hopes that his and my disagreeing to agree in our opinions on syringing and other matters connected with Grape-growing, would have brought out many letters in *THE JOURNAL OF HORTICULTURE* from our champion Grape growers. I still hope that they will favour us with their views on the subject, for it is a most interesting one.

The wonderful display of Grapes at the Edinburgh Show will be the means of trying the mettle of our Grape growers for the next few years, and I believe that, however great the results that have already been obtained, still greater are obtainable by applying our minds more fully to the subject. Constant practice, with keen watchfulness, will make many a mystery clear, and open the door of success to those who are at present labouring under difficulties in cultivating the Vine.

I think, if my memory serves me right, Mr. Whittle said he would give us a paper on the cultivation of the Vine in pots. If he would kindly do so I am sure it would be read with pleasure and profit by many.

If it is intended to propagate a stock of young Vines, the cuttings of the kinds to be propagated should be tied in bundles and their ends put into the soil. The first week in January is a good time to put in the Vine eyes. They will require a brisk bottom heat, and should be shifted into larger pots as they advance in growth, still keeping them plunged where they can have the benefit of a bottom heat of 75° or 80°. When it is desirable to have well ripened canes for early forcing next year, they should be shifted often, and receive all the heat that can be given them. If they have their final shift into 12 or 14-inch pots early in April, they may be placed where they can have the benefit of as much sun as possible. They must on no account be allowed to become sufficiently dry so as to cause them to flag. After they have made their growth they may be placed in a cooler house, where they can have the benefit of as much light and air, as well as surface heat, as can be given them; this will soon harden them, and by the end of July their wood will be as hard as well-seasoned oak.

For a late Grape, in my opinion, there is none to equal Meredith's Black Alicante, the more I see of it the better I like it.—J. WILLS, *Huntroyde Park, Burnley, Lancashire.*

**THE CZAR VIOLET.**—I am anxious to make known to all the lovers of Violets who may not have met with Mr. Graham's Czar Violet, that I have now (November 3rd), some splendid



plants with full-blown flowers, which, from their wonderful size and sweetness, cannot be surpassed; nor indeed can any Violet come near the Czar. I feel myself greatly indebted to Mr. Graham for the trouble and patience which he has exercised in order to produce such a treasure for our gardens.—  
PROSPERO.

### STRIKING CUTTINGS OF THE VERBENA.

SINCE August I have read in the Journal of various methods of striking Verbena cuttings; and in one Number I saw the reply to a correspondent, that those who succeed in striking the Verbena from cuttings cannot fail in striking other bedding plants, making it appear that the Verbena is difficult to strike. As I have found it not only an easy but a very simple matter, perhaps the plan I pursued may be of some use to those who find a difficulty in the operation.

About the second week in August I took as many cuttings from the old plants as I thought I should require, and put two cuttings into a four-inch pot, pressing the cuttings firmly in, and watering them out of a can with the rose on. The soil I used was common soil out of the kitchen garden, mixed with a little Reigate sand. After I had potted all I wanted I placed them in a corner of the garden that was overhung by large trees; the trees effectually kept the hot sun from scorching the plants. I watered them occasionally, just keeping them moist; and did nothing more to them till the 13th of October, when I nipped the tops off, took the plants into the greenhouse, and placed them near the glass, where they can have plenty of air and light.

I may add in conclusion, that out of two hundred cuttings I only lost four; and a gentleman's gardener called to-day to see me, and he said he had never seen finer and healthier-looking Verbenas.

I may also state that all my bedding plants have struck without the aid of any artificial heat, including Verbenas, Geraniums, Loth common and fancy, and variegated, Ageratums, Salvias, &c.—JOHN BOWLEY.

### TRANSPLANTING FROM RUSHTON.

IF I lacked the Roman toga, and the still more rare Roman virtue, to make me fancy that I was Marius sitting amongst the ruins of Carthage; if the monogamist character of my views and sundry other small matters forbade me to fancy that I was Boabdil, as he stood on the hill still called "*Oltimo sospiro del Moro*," and looked for the last time on the proud walls and glittering minarets of his loved Grenada; and if my aversion to that nasty weed, almost equal to that of James I., of blessed memory, prevented me from imagining myself to be Macanlay's New Zealander, as he sat smoking his calumet, looking over the ruins of once proud London—I had the other day, when standing in Mr. Radclyffe's garden at Tarrant Rushton, one thing in common with them all, I was looking on glory departed or departing. I felt that I was standing where, probably, I should never stand again, for, alas! Rushton is doomed, and however its worthy rector may be designated hereafter, he will no longer be known as Rushton Radclyffe. He hands over the living either in March next, or March twelvemonth at the latest, to a younger rector, and he will be fain to pitch his tent elsewhere, and what he can take with him of his loved pets will migrate too.

Already I seemed to see the new "*Inenmbrance*," as an old dame once said to the late Bishop Blomfield, sending his men into the very sanctum of our friend. What in the world could he want with all those great sprawling trees? Wouldn't the house look much better well cleaned and whitewashed? And so away would go Solfaterre, Celine Forestier, and Triomphe de Rennes; and then, who would take the care of those Peach trees, from which the present rector has gathered upwards of 4500 Peaches in nine years, that has been taken of them? No one, I fear; and so I thought I would just say a few words anent this garden, ere it passes away from the notice of the horticultural world for ever.

I think that Mr. Radclyffe would be the last to let it be supposed that there were no such Rose trees in England as his, or that the growth which they manifest is something new and above that which other growers accomplish. No, it is simply this: In every point that can benefit the Rose grower the garden at Rushton is deficient; the soil is poor and hot, the situation exposed to the violent south-westerly gales, which so prevail in Dorsetshire; moreover, it lies in a valley where

frosts are much more severe than on higher ground; and all these things have to be combated. Yea, they have been and are fairly beaten, the Roses equalling those of more favoured localities, and all this from the determined perseverance, intelligent gardening, and constant care of the rector of Rushton.

The Strawberry plants, notwithstanding the hot season, looked full and vigorous, but then they had been watered incessantly. I never, said "Stephen," was "tired of anything than I wor of watering this year." All the first-rate kinds were here, and giving promise of great things, the most vigorous being Sir Joseph Paxton and Wonderful. Then there are the Peach trees looking so clean and bright, with well-ripened wood, close cut, which seemed to say, Only take of me, and see what I will do for you next year.

Mr. Radclyffe is so constant a correspondent of THE JOURNAL OF HORTICULTURE, that he leaves but little for me to say, and I am sure that he would not like that I should say all I heard of his open-handed liberality and kindness as a neighbour, clergyman, and friend. All about him hope that he will not move far away, and that if Rushton knows him no more, he may find a garden (for I do not think he cares much about the home), where under more favourable auspices he may yet achieve greater things as a rosarian. Let all who complain of soil and situation take a lesson from him, and their motto will be, "*Nil desperandum*."—D., Deal.

### ARCHERFIELD.

THE rapidity with which the traveller is now carried over the country allows him but little time to contemplate the character of each district until it has been left behind, and other features present themselves. Thus it is only when the journey is prolonged amidst scenery of a uniform kind that the mind begins to realise the certainty of distance; but then the monotony soon becomes more tiring than change. A railway skirting the ocean is at most times agreeable, while a moor or morass becomes wearisome, and even the well-cultivated tracts of country, known as the fen districts, lose all interest after the first sight has been obtained. There are, however, large tracts of level country which have been brought into the highest possible state of cultivation, and which will at all times claim attention; for instance, the market gardens in the flats which border the river Thames, both above and below London, cannot fail to attract attention, and so with the more extensive tracts of level country in agricultural crops, when their cultivation is of the highest order. It is to a district of the latter description that I have now to introduce the reader, it being an extensive plain bordering on the German Ocean and its tributaries, and one which for many years has stood in the foremost rank of agricultural progress. For at least two or three generations the Lothians of Scotland have held a high reputation for their agriculture, and particularly the East Lothian, or Haddingtonshire, to which I now refer. It is a flat country, the portion having the Frith of Forth for its northern, and the German Ocean for its eastern boundary, being level, or nearly so, for many miles inland, yet not the dead flat of the fen districts of Lincolnshire and adjacent counties, but destitute of eminences of any importance, excepting in such solitary cases as that of the remarkable mass of rock, called North Berwick Law, which is a huge mis-shapen mass of basalt, rising abruptly out of the plain. This prominent feature, visible for several miles, is, in some respects, the counterpart of its near neighbour the Bass Rock, only the latter rises out of the ocean, and possesses no small historical interest. The aspect of the country is more in accordance with what a farmer would admire than what the man of taste would wish for: large fields, with only moderate-sized hedges in straight lines, and but few trees, give the idea rather of a wholly agricultural district than of a picturesque one; and if we add the fact that dwelling-houses are but thinly scattered, and those that do exist present more the appearance of usefulness than of ornament, we have but little for the lover of varied landscape to admire in the picture. This flat country is divided into fields of from twenty to fifty acres or more, and the farm buildings are substantial, including that which forms so striking a contrast with most English homesteads, the building for the steam-engine, with its tall chimney, a number of corn stacks surrounding the whole. It may be remarked that in most cases the farm-house is on the south side of the building, and farther, that the farms are large, and not more than one-fourth of their acreage, if so much, is devoted to perma-



ment meadow or pasture, the remainder being wholly in tillage. In the early part of September the harvest was being just concluded, and fields of Margold, Turnips, and Potatoes showed unmistakably what good land or good farming, or rather both united, were capable of doing. These features of the country are here given preparatory to introducing the reader to one of the best-managed gardens in the kingdom—Archerfield, which is situated in this well-cultivated district.

From the general character of the country it will be at once understood that picturesque scenery does not form a main feature of this place; nevertheless, it is not without its advantages. The southern shore of the Frith of Forth forms the boundary to the park on that side, and the fine turf, level as a bowling-green, runs down to the water's edge, while at a little distance from the shore two or three island rocks, on a smaller scale than the Bass Rock, give great diversity to the scene. The Frith of Forth is from fifteen to twenty miles wide at this point, but the opposite coast of Fife is distinctly visible, and the size and shape of its fields easily traced. This view, of which the broad expanse of the Frith constitutes the finest feature, is to the north of Archerfield; looking eastward we have the black and precipitous rock of Berwick Law, almost on a line with the Bass Rock, already referred to. The coast in that direction is some miles distant, and not seen from the grounds. The immediate neighbourhood of the mansion is well clothed with timber, and the park and its surroundings are plentifully supplied with trees. Some thriving woods of mature age intersect it in various directions, and afford shelter where such is wanted. A noble avenue, stretching in a straight line from the west front of the mansion to a great distance, appeared to be 150 or 180 feet wide, and the ground being level it had a fine effect. On other sides plantations of irregular form connect the mansion with the ruins of a former residence at some little distance off, named Dirleton Castle, which will be noticed hereafter; there being walks through these woods, and ever and anon some opening displaying a Pinus or other important tree, differing from those forming the rest of the wood. The mansion is a large commodious structure, built, I believe, about the middle of the last century, when comfort and convenience were regarded as of more importance than external appearance, although in the latter respect it is not without its merits. In its immediate vicinity are a closely-shaven lawn, shrubs judiciously planted, singly and in masses, and here and there a Conifer, but few or no flowers. We must look elsewhere for those flower-garden plants which Mr. Thomson has the reputation of cultivating with so much skill and success, and arranging with such taste.

It has been explained that the mansion of Archerfield is situated on a plain, having the estuary of the Forth about a mile and a half or more to the north of it. The kitchen garden and forcing department, with Mr. Thomson's dwelling, are nearly a mile to the south-west; and the ruins of Dirleton Castle, with its beautiful flower garden, are little short of a mile off, in an opposite direction. These two places, nearly two miles apart, but of course connected by well-kept walks, &c., form independent flower gardens, and will be treated of separately. The kitchen garden, as being the head quarters and possessing other objects of interest, will take precedence. This garden is a parallelogram, and walled all round, the north wall, about 500 feet long, being occupied with glass structures, and some Pine-pits, and others are at the north side of the wall, with the usual offices. The garden, I may remark, instead of being divided in two by a walk across the centre, has two such walks, which, with the walks near each end, divide the central portion into three equal parts, and each of these walks gives scope for variety in that mode of ornamenting flower-borders which Mr. Thomson practises.

Before entering on this, however, let us take a peep into the houses and see some of the specimens of those noble fruits which Mr. Thomson exhibited so successfully at Edinburgh. The houses, though symmetrical, are mostly old, and the end ones, especially, are narrow. The whole length of range is divided into eleven houses, which, for distinction, I shall number from the west end. The two end houses, Nos. 1 and 11, are only 5 feet wide, merely glass cases in fact; Nos. 2 and 3, and 9 and 10, are about 7 feet wide; while Nos. 4 and 5, and 7 and 8, are about 11 feet; and the central house, which is span-roofed with a door in the front, is 15 feet wide; so that these houses, presenting a great length, it is true, have but little standing room for plants. I will, however, describe their contents more in detail, and beginning at No. 1, at the west end of the range, make a few notes on each.

1. Vinery, as stated above, only 5 feet wide inside, planted mostly with Lady Downe's, in excellent order, fruit being good.

2. Peach-house; fruit, which had been good and abundant, had been gathered; there were, however, some Figs in pots still having fruit on, and some plants for decorative purposes were coming on.

3. Vinery; mostly Black Hamburgh, excellently coloured, and in other respects good, as evidenced by the success which Mr. Thomson had at the Show. There was no appearance of withering or shanking, and the whole of the Vines were in most excellent health.

4. Vinery; mostly of the Muscat class, well ripened off, and equally well finished with the Hamburgh. The Duchess of Buccleuch was coming on, but was not so far advanced as to enable a judgment to be formed of its merits, but the whole of the Muscats were excellent.

5. Forcing-house, where Vines had been forced in pots, and it had been used variously. At the time of my visit, plants for rooms and other decorative purposes were its principal occupants.

6. Greenhouse with a span-roof and door in front, containing most of the popular plants of the day, not the least interesting being specimen plants of some of the best bedding Geraniums—such as Excellent, Climax, Amy Hogg, Paul L'Abbé, Cybister, Rose Rendatler, Conspicua, and others. There was also an excellent specimen of *Statice profusa* and *Solanum capsicastrum*.

7. Vinery; Black Hamburgs, mostly cut, but had been good.

8. Vinery, recently planted, promising. Several new kinds had been introduced here, and in a year or two, doubtless, this will be very interesting. Some Figs and Vines in pots were also allowed a place for the time being.

9. Vinery; Vines mostly newly planted and choice kinds, including one or two seedlings; one, a White Grape, promised well. There was also a Black one that appeared likely to be useful and good.

10. Peach-house; fruit gathered; but trees in good trim.

11. Vinery; mixed kinds of Vines.

These houses, as will be understood, entirely occupied the north wall of the garden, leaving only two openings for ingress between the houses, Nos. 3 and 4; and also between Nos. 8 and 9. These walks, crossing to the opposite side of the garden, end at doors in the south wall, and between these doors on the south side is a Peach-house, 132 feet long by 12 wide. This house had not been forced like the others on the north wall, and, consequently, there was still some fruit hanging in the beginning of September, and both it and the trees were in excellent order. In winter Mr. Thomson here keeps a great portion of his bedding plants, as a couple of pipes run along the front. This house was also gay with good specimens of Geraniums and other flowering plants.

When describing this house I must also mention, that on the north side of the wall Morello Cherries were bearing excellent fruit, and a border about 12 feet wide was planted with Currant and Gooseberry trees, which at the time of my visit were in bearing, and a net fastened to the top of the wall, in a sort of lean-to fashion, protected the whole from the depredations of birds. The Gooseberries were still good and in tolerable abundance, while the other fruits promised to hang some time. I believe that Plums are retarded in a like manner, but this fruit is liable to drop off, and little can be done to keep it on the tree. This mode of keeping small fruits I noticed in one or two other places, and it seems a plan worthy of adoption.

In some Pine-pits behind the garden wall, Mr. Thomson had some excellent fruit of Smooth-leaved Cayenne Pine Apple, a variety to which he is very partial, and certainly, judging from the very excellent specimens here produced, it is deserving of greater attention. Mr. Thomson grows all the plants in pots, and in pits not by any means remarkable, either for their construction or facilities for heating, and yet he had fruit weighing upwards of 9 lbs., and the weight of a quantity that were in fruit or coming on would seem to average about 7 lbs. The fruit has a handsome appearance at table and is much admired. I do not think the variety often exhibited at the London shows is the same as this, as the London one is more tender as a plant and seldom attains the size above mentioned. Mr. Thomson also grows Queens, but less extensively than the Smooth-leaved Cayenne. There were some very good fruit of 4 and 5 lbs., and I learned it was customary at Archerfield to calculate the weight by the number of pips in depth in each fruit. A Queen Pine was expected to be half a pound in weight for every pip



in depth. Thus a fruit ten pips deep was expected to swell out to 5 lbs. in weight. The Smooth-leaved Cayennes were calculated at 1 lb. per pip. Thus a fruit 8 pips deep was expected to weigh as many pounds when ripe, and so on. The healthy appearance of the plants, and other circumstances, proved beyond doubt that the soil and treatment suited them, for it would be impossible to look on plants indicating a higher degree of health, and yet at the same time the foliage was not of that gross character I have frequently seen, when fruit only half the size was produced. The plants did not appear to have had any coddling, as three fine plants which Mr. Thomson had exhibited at the Edinburgh Show, and having fruit on, but which had not begun to colour, were returned to their places without appearing to have sustained any injury. The whole seemed to be growing away with but very little attention.—J. ROBSON.

(To be continued.)

## THE INTERNATIONAL HORTICULTURAL EXHIBITION.

It will be seen by our advertising columns that the great international project is now fairly launched, and at the head of it is Her Majesty, who has been graciously pleased to aid it not only with her royal patronage but with her purse. In like manner His Royal Highness the Prince of Wales has given his patronage, and has accepted the position of President; and we are happy to be able to state the adhesion of other members of the Royal Family is daily expected. With such support, and the support of those, the long list of whose names is announced, the prospect of success is most cheering. Already £2711 have been subscribed, and £3845 guaranteed, and every day brings its contribution. It is quite evident that the movement has been taken up most cordially by all classes and representatives of the horticulture of the country, from the Queen herself to the professional gardener, and one has but to glance over the list to see how all have, according to their means, done what they could to promote this laudable object. But there are many who have not yet sent in their support; some from the feeling of doubt as to whether the object would be carried out to completion, and others from a desire to see what their neighbours have done. There is no reason now to hesitate on either ground, and we would strongly advise all those who intend to identify themselves with this great national movement to send in their adherence as early as possible, that the Committee may know on what they have to depend.

The opening-day is now fixed for Tuesday, the 22nd of May, and the Exhibition will last till the evening of Friday following. The opening ceremony, to which none but the subscribers and the holders of privileged tickets will be admitted, is expected to be of a very attractive character, and will be conducted with all the importance befitting such an occasion.

The arrangements that have been made with the Council of the Royal Horticultural Society are such as will conduce much towards the success of the Exhibition. It is intended that the site be either the western annex—that is, the open space on the west of the Society's garden, or the vacant space to the south, where the Great Exhibition building stood; and the Committee of the International Exhibition are to have the entire use of the Society's garden for the week in which the Exhibition is to be held as an extension of their own exhibition. The terms which have been arranged will be gathered from the following correspondence:—

"1st November, 1865.

"DEAR SIR,—We are instructed to make the following offer to the Council in respect to the terms on which the garden of the Royal Horticultural Society is to be made available for the purposes of the proposed Exhibition.

"1. The Committee are to have the free use of the western annex, for the purpose of holding thereon such portions of their Exhibition as they may find it convenient or practicable to place there.

"2. To have also the use of the conservatory and of the western and upper arcades so far as they may require them, with permission to pass through the southern arcades in case the Show is held on the vacant space south of the gardens.

"3. To have the loan of the Society's staging if required.

"4. That the Committee of the International Exhibition undertake the arrangements in the gardens for the week in which the Show is to be held, and regulate the admission thereto of their subscribers and visitors, and of the public, from Tuesday to Friday inclusive. The admission of the Fellows to be regulated as hereafter explained.

"5. To have during the week of the Show the services of the staff employed in the ordinary business of the Society.

"6. To have all moneys taken for admission to the garden during the continuance of the Show.

"7. The Fellows are to give up for the week their privilege of admitting friends. They are themselves to have personal admission to the garden throughout the week, excepting to the conservatory and arcades on the Monday and Tuesday, during the staging and judging of the plants; and they are to have free access to the Exhibition in the western annex (or in the southern spot of ground belonging to the Treasury, should it be found more convenient to erect the tent thereon), only on the Wednesday.

"As an equivalent for this accommodation the Committee engage, in addition to the admission of Fellows and debenture-holders as already stated, to pay £300 to the Society on taking possession, to provide on each of the show days three bands of music, and to restore the western annex to the state in which they found it.

"I am, dear Sir, yours very truly, for self and co-Secretaries,

"ROBERT HOGG, General Secretary.

"To Capt. Cockerell, Assistant Secretary, Royal Horticultural Society."

"4th November, 1865.

"SIR,—I am desired by the Council of the Royal Horticultural Society to signify to you, in answer to your letter of the 1st November, their acceptance of the proposal of the Committee of the International Horticultural Exhibition therein contained.

"The Council desire me to express to you their earnest wishes for the success of the undertaking, and request me to inform you of their anxiety to afford you every assistance in their power for the carrying out of the scheme.

"I am, Sir, yours obediently,

"J. COCKERELL, Assistant Secretary.

"Dr. Hogg."

## THE ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 7TH.

FLORAL COMMITTEE.—As might be expected at this late season of the year, there were not many plants sent to this meeting for examination. Mr. Bull exhibited a very interesting collection of forty-eight plants used for either medicinal or official purposes. For this a special certificate was awarded. Mr. Bull also sent other specimens, and among them a large plant of the well-known hardy garden shrub, *Aucuba japonica* variegata, thickly covered with bright scarlet berries, for which a special certificate was awarded. *Selaginella Martensii* albo-variegata, from the same exhibitor, received a second-class certificate; and to *Cuscuta* sp. (*chilensis*?) growing on a plant of Ivy, producing white bell-shaped flowers very highly scented, a first-class certificate was given on account of its being a botanical curiosity. *Machærium firmum*, Pallisander Wood, supposed to be the Rose wood of commerce, was also exhibited by Mr. Bull.

Messrs. Osborn, Fulham, sent a plant of *Parochetus communis*, a trailing plant with a deep blue pea-like flower, almost a hardy plant, and useful for rockwork or baskets—second-class certificate; and Messrs. Downie, Laird, & Laing two cut flowers of *Chrysanthemum* Queen of England, striped, one of the many forms of sports of this flower. Three plants were brought from the Society's gardens which had been sent home by Mr. Weir, and which were probably *Philodendrons*; they were referred to the Rev. M. J. Berkeley for further examination. Major Clarke exhibited two plants which were raised in some earth sent to him from South Africa; their names, &c., were not decided upon. Mr. Fleming, Cliveden, sent some specimens of Chinese *Primulas* with yellow variegated foliage; also some fine variegated *Pelargoniums*, the merits of which at this late season could not be determined, and it was requested that they should be sent again. There were also some specimens of bright red varieties of seedling Chinese *Primrose* from the Society's garden, one of which was very much admired and noticed. Mr. Salter, of Hammersmith, sent seven fine seedling *Chrysanthemums*, some of them first-rate flowers. Those of 1865 were:—Hereward, with fine incurved flowers much like the old *Argenta*, but better formed—second-class certificate; Golden Beverley, a very beautiful sport of the white Beverley; the flowers were not fully blown, but from its delicate and bright yellow colour and excellent form it will be much prized—second-class certificate; Gloria Mundi, a very fine incurved flower, deep golden yellow, forming almost a ball, very fine—first-class certificate. The seedlings of 1861 were Golden Ball, a fine incurved variety; the colour when the flower first opens is a dull buff or bronze, but as the flower expands the colour becomes of deep golden hue—first-class certificate; White Trevenna, a sport from pink Trevenna, a pretty hybrid with neatly-formed flowers; and Prince of Anemones, flowers pinkish white, but rather coarse. Those seedlings which received certificates will not disappoint the public; they will most probably be frequently exhibited next year, and to much greater advantage. The hot summer, or rather the scorching month of September, when the buds are formed, proved very prejudicial; and *Chrysanthemums* are not so fine this year as usual, the flowers being small and deficient in substance.

FRUIT COMMITTEE.—Mr. George F. Wilson, F.R.S., in the chair. Two bunches of Grapes were sent from the garden of the Society, which had never before been exhibited; one was Diamant Traube, a fine large form of Chasselas, with a pure Sweetwater flavour. The bunches are large, and the berries unusually so. It is a valuable early



Grape, ripening in a cool house in August, and it will hang as long as the Barbarossa without exhibiting any symptoms of decay. This was awarded a first-class certificate. The other was Laterode Noir, a large oval Grape, with dark black purple skin, and covered with a thin grey bloom. The flesh is tender, but has not a very rich flavour. On comparing it with Lady Downe's it was found to be much inferior. There was also a good dish of Belle Agathe Cherry, but in consequence of the late rains the flavour was gone.

Mr. H. Downing, gardener to Thomas Grissell, Esq., of Norbury Park, Dorling, sent a dish of magnificent Pomegranates, grown against a wall in an orchard-house. They were equal to the finest imported, perfectly ripe, and in consequence of the highly meritorious production, they received a special certificate.

Mr. Challis, gardener to Lady Herbert of Lea, sent a fine specimen of Charlotte Rothschild Pine, and Lady Dorothy Nevill sent fruit of *Monstera deliciosa*, perfectly ripened, and excellent in flavour.

Messrs. Stuart & Mein, of Kelso, sent specimens of a small Savoy, which is not so good as the Early Ulm, and has the disadvantage of being too open. The Yellow Blumenthal Savoy was not considered so great a desideratum in this country as it is in Germany, where its yellow colour recommends it as the best of the Cabbage tribe for sauerkraut. The Miniature Drumhead Cabbage, exhibited by the same gentlemen, was a coarse form of the Chon Joannet, or St. John's Cabbage.

Mr. C. J. Perry, of Birmingham, exhibited a dish of dessert Apples, the name of which was unknown. A large collection was received from the Society's garden all correctly named.

Mr. Henry Dewar, of Newcastle-on-Tyne, sent stalks of very excellent white solid Celery, and roots of his new seedling Beet. The latter is a very handsome root, with a small neck. The flesh is a brilliant dark red, and the leaves are bronzy or greenish. When baked (not boiled—never boil Beet), it was delicious. This received a first-class certificate.

**SCIENTIFIC MEETING.**—W. Wilson Saunders, Esq., F.R.S., in the chair. The awards having been read over by the Rev. Joshua Dix, and G. Wilson, Esq., the Chairmen of the Floral and Fruit Committees, Mr. Saunders said that he was glad to observe a collection of interesting economic plants from Mr. Bull, and stated that it was the intention of the Society to gather together such plants, so that its Fellows should have a knowledge and appreciation of their nature and uses. He then called upon the Rev. Mr. Berkeley to make his remarks on the subjects exhibited.

Mr. Berkeley said, that before doing so he would take the opportunity of stating, that a scarlet Quamoclit, exhibited by Mr. Earley at the last meeting, and which, contrary to the usual habit of the species of Quamoclit in this country, was a perennial, proved to be a form of Quamoclit phœnicea. Dr. Thomson told him that several of the species of Quamoclit were perennial in India, though annuals in this country. Referring, then, to the subjects before the present meeting, he stated that of two plants sent by Major Clarke, one was supposed to be a species of *Jatropha*, or *Manihot*, with peltate, digitate leaves, which had peculiar stipules at the base of the petioles; and the other, Mr. Gibson had suggested, might be one of the *Piperaceae*, and, probably, an *Artanthe*. A *Cuscuta*, from Mr. Bull, exhibited last year as *Cuscuta chinensis*, if not identical with *Cuscuta reflexa*, was very like it. Mr. Berkeley then directed attention to a collection of Gourds which he had brought from his own garden. They had been raised from seeds sent him from Paris by M. Naudin, who had reduced all the varieties experimented with there to four species—namely *Cucurbita Pepo*, *maxima*, *moschata*, and *melanosperma*, and to these every variety which was before the meeting could be referred. The first was distinguishable by the grooves on the stalks. *Maxima*, which was represented by a fine specimen of the Large Yellow Gourd, was distinguished by the roundness of the foliage and the stalk being never grooved. The rind, too, was generally soft, while in *Pepo* it was hard, still there was a variety, *durissima*, which had an excessively hard rind. People, generally, were not aware of the great utility of Gourds. In France they were made into soap, as a *purge* nothing could be better, and they remained in use till the end of March. Of *Cucurbita moschata* there was also a specimen, but this species seldom ripened in England, though in Egypt and other hot countries it was grown almost exclusively. The fourth species, *C. melanosperma*, had black seeds; and of this the collection contained two varieties, that known as the Malabar Gourd, and another which he had first seen noticed in Lowe's "Flora of Madeira." Among the Gourds were two *Lagenarias*. It was important to distinguish the difference, for they were not wholesome. The *Lagenarias*, or Bottle Gourds, were known by the flowers being white, and like goffered calico. Mr. Berkeley concluded by reading a letter, stating that a branch from an old Black Frontignan Grape had been sent, bearing from one eye a bunch of black and another of white Grapes, but the branch had not arrived.

Major R. Trevor Clarke having been requested to make some remarks on the plants exhibited by Mr. Bull, said it was one of the finest collections of economic plants that he had ever seen brought together. The Allspice, Amotto, Arrowroot, Cachaona, Peppers, Teas, Cinnamon, Coffee, Indiarubber, Nardoo, Patchouli, Sarsaparilla, Vanilla, &c., were each noticed, and some of their leading peculiarities pointed out. The Chairman then adverted in terms of deep regret to the death of Dr. Lindley, stated that the Council had that day passed

a vote of condolence to his family, and asked the meeting to join to it an expression of their feelings of regret for his loss. This having been unanimously voted the meeting closed.

### TAKING IMPRESSIONS OF FERNS.

The materials used are nitrate of silver, hyposulphite of soda, a flat camel's-hair brush, printing frame, one or two porcelain dishes, and paper, all of which may be obtained of any photographer.

First, as regards exciting. Dissolve 1 drachm of nitrate of silver in two ounces of rain water. When dissolved, pour the solution into a saucer. Pin a piece of paper on a board held horizontally; then with the camel's-hair brush, carefully brush this solution on till the paper will imbibe no more; then hang up to dry in a dark room. This process had better be performed by candle-light, as if the paper is exposed to the sunlight or to daylight, it will turn black. It will be as well also when the paper is being prepared, to mark it in the corner on the prepared aide, that it may be better distinguished in the after-process.

Printing. Supposing there is good diffused sunlight, and the glass of the printing frame is cleaned well on both sides, place the object to be copied on the glass, face upwards, the excited paper on this, face downwards; then the back-board, which must be screwed down tight. The frame may now be carried into the light, and placed facing the sunlight; care must be taken that no shadow falls on the frame, otherwise it will present streaks. The time of exposure will be about five minutes.

As to fixing, when the printing has gone deep enough, take the paper out of the frame and immerse it in the fixing solution, made by dissolving three ounces of hyposulphite of soda in one pint of rain water; let it be immersed for about five minutes, then place it in a pail of water for about six hours, changing the water two or three times, so as to completely wash away every trace of the soda, which, if allowed to remain, would cause the impression to fade completely away, after which, hang up to dry as before. When dry, if the natural tint is required, colour picture like the original.—(*American Gardeners' Monthly*).

### CLOTH OF GOLD GERANIUM.

In reply to your correspondent Mr. Flitton, I beg to offer my experience with the Cloth of Gold Geranium. I have now used it for three seasons for bedding-purposes. In the south of Derbyshire, where I grew it the first season, it proved a complete failure, the plants being no larger at the end of September than they were on the day on which they were planted out, although they were planted in good soil, and were favoured with the best situated bed on the lawn. As nearly as I can remember they were planted out about the 16th or 17th of May, and this I am confident was the sole cause of failure, for in a few days came a most bitter cold east wind, which continued for three or four successive days; and though I took the precaution to fix mats up with strong flower-stakes at the exposed sides of the bed, yet, with all my care, my much-prized Cloth of Gold was deprived of most of its beautiful leaves, and they continued to have a very poor appearance throughout the season. I have also seen beds of Cloth of Gold this season having just the same appearance that mine had in 1863, and on inquiry I found that they had been turned out about the 20th of May, which is far too soon for Cloth of Gold in the south of Durham, where I am now living.

Since 1863 I have never ventured to turn out Cloth of Gold until the first week in June at the soonest, and then it has been planted on a south border, and the result has been that the success for the last two seasons has been as complete as the failure was in the first case. I also planted some this year about the end of June, or the beginning of July, on a piece of ground that was walled on the east and south sides, and having many trees very near on the north and west sides, consequently they received very little sun, and to my great surprise these grew far more vigorously than the former, the leaves being nearly twice the size, but the colour was not nearly so good, and the flowers were very poor. I suppose this was owing to the situation being moist, and not receiving much sun. The only preparation that the ground received previous to planting was a good dressing of well-decayed stable manure and fresh loam, in equal parts. If treated as above I firmly believe that Cloth of Gold will answer in any situation that is not exposed to high winds.

I always find Cloth of Gold one of the very best Geraniums



to propagate. This season I have not had a single cutting of it that has failed. They were treated as follows:—About the 20th of August I took the number of cuttings that I required, and put each in a separate thumb pot; they were then placed on ashes in a sheltered corner of the garden, and in a fortnight or three weeks the little pots were full of roots. I only wish some of the best silver-edged ones would do as well with me as the Cloth of Gold.

Perhaps it may not be out of place for me to mention that I found a sport from the Cloth of Gold, above a year since, with an entire gold-coloured leaf, of which I have now a good many plants, and it does quite as well with me as its parent, but I fancy it is of a more spreading habit, and, as yet, it has not shown the least signs of going back to the original.

In conclusion, I trust that these remarks and those that have come from others in favour of Cloth of Gold may induce Mr. Plitton to "try again."—WM. LAWRENSEN.

Mr. R. Fish, in his "Doings of the Last Week," asks if any one has experienced the same facts as he has with Cloth of Gold Geranium as a bedding plant; and as I have grown it largely in three different positions during the past summer, I may, perhaps, be doing some good by stating the results.

1st, In May of this year I planted two beds in the parterre, which were fully exposed to the sun's power, and from that time until the plants were taken up last month these had not grown an inch, but, on the contrary, they gradually became less, until they were unsightly objects.

2ndly, I planted another bed under a terrace wall, where the sun did not reach it until just after mid-day. Although this bed has done much better than the last-named, the plants only made slow progress, and were by no means up to the mark.

3rdly, I planted a quantity on a border, backed up with trees and shrubs, and situated so as to receive the morning sun up to eleven o'clock, and there I found the plant quite at home, thriving and making foliage of a splendid colour: consequently doing good service as a bedding plant.

The facts here stated not only coincide with those of Mr. Fish, but prove that in order to have this plant in perfection in our gardens it must have a partially shaded position. Golden Chain I do not grow largely enough to give an opinion of.—THOMAS RECORD, *Gardener to Colonel Loyd.*

## METEOROLOGY OF OUR FRUIT-HOUSES.

THERE has gone abroad somehow an opinion that a Peach tree grown in a Peach-house should be treated in a different way from a Peach tree grown in an orchard-house, and also that a bush tree grown in an orchard-house is, in some unexplained way, stronger and hardier, and able to stand greater vicissitudes than one grown in a Peach-house. Now, I think that if these two systems are fairly examined it will be proved that there is only one treatment applicable to them, and that if this is not followed success should not be expected.

In my previous letters I tried to show the possessors of lean-to vineries and Peach-houses that by keeping the sun's rays out they lost in summer what was equal to the value of their pipes; and, again, to prove to those who had large orchard-houses in the south, that they, whether they knew it or not, had as much heat as is required in any forcing Peach-house or vinery. As the correctness of the temperatures I gave as obtainable in these two classes of houses—viz., lean-to houses, where the sun's rays were not obstructed, and large span-roofed orchard-houses, has been called in question, it may be interesting to some of your readers, as well as satisfying my own desires, if I give a few meteorological facts to show that my assertions were not made at random.

The following table I have taken from Mr. J. C. Morton's "Farmer's Calendar," and he gives the Astronomer Royal as his authority:—

	Greatest heat.	Lowest max. heat.	Highest min. cold.	Greatest number cold.	Average number rainy days.	No. of years' observation.
May.....	86.2	65.0	45.3	28.3	13	90
June.....	94.5	72.7	52.7	36.2	12	
July.....	93.5	72.7	54.0	38.9	12	
August....	92.0	70.8	49.9	40.0	12	
September	86.4	66.7	53.5	32.0	13	

The mean between columns 1 and 2 must, I think, be taken as a fair criterion of the temperature on a sunny day, and that

between 3 and 4 as an average of the night temperature to be expected. I have also given the number of wet days. I will now contrast this with the Chiswick return for the month of September last—the highest was 88°. I find one day the thermometer is marked as 80°, and fifteen others are above; I shall therefore assume that this figure 80° is not too much for a fair average for the month this year, and that Mr. Rivers was unfortunate in his choice of a day to obtain an average upon, as, if it were correct, instead of proving his large orchard-houses to be equal to the climate of Toulouse and the south-west of France, it would only show that they are the same as the open air at Chiswick.

We also differ in our estimate of the increase of heat on a fine day. Perhaps if we notice the variations out of doors it may help us a little; I will take the month of June. Between the maximums on the 2nd and 6th, are 16°; between the 9th and 12th, 17°; 12th and 14th, 12°; 16th and 18th, 21°; 18th and 21st, 30°; 23rd and 26th, 21°; 28th and 29th, 14°. I will then reduce my estimates a little, and say that, taking an average of the five hottest months, a large orchard-house placed at Chiswick should have for eighteen days in each month a temperature, with fair ventilation, of from 90° to 110°, and I am still of the opinion that this heat is more than it would be safe to have if it were obtained by any other means. Let me now examine the minima and see if I am supported in saying that narrow span-roofed orchard-houses are only fitted for retarding-houses. Columns 3 and 4 will give the average night temperature according to the return of the Astronomer Royal, but I will also take the Chiswick register. During August I find eighteen nights below 51°, but including 41°, and seven below 41°; in September sixteen below 51°, but including 41°, and seven below 41°. This leaves only six nights in the first month, and seven in the second, that were over 50°.

Trees that have been growing in a warm climate—that is, with the ventilators closed till July, are more easily acted upon than those which have always been in a colder climate, and, therefore, will be sooner brought to a standstill, though they may not lose their leaves and go to rest till they have had their usual time of growth. But what does Dr. Bennet say?—that the deciduous trees were kept at rest till April at Mentone by a night temperature "in fine weather of from 40° to 48°, in bad weather sometimes below 40°." The average maxima he gives as, January, 52.4°; February, 53.8°; March, 58.6°; April, 64°. Perhaps it will be the most satisfactory if I also add the average minima for each month, January, 43.3°; February, 45.4°; March, 46.3°; April, 49.2°; the April table only includes to the 15th, at which date Dr. Bennet returned home.

I gave in my letter a range of from 95° in the day to 45° at night, and some may have thought this was a greater alteration of temperature than would be wise to permit. Mr. Rivers wonders that the trees were not killed—Peach trees are natives of a climate where there are greater vicissitudes than we have in ours, but let us see what we have as shown by the Chiswick report for September. I count six days upon which the difference between the maximum and the minimum was 40° and over, the highest being 46°; twelve had 35° or over, but under 40°; four had 30° or over, but under 35°; four had 25° or over, but under 30°; four had 15° or over, but under 25°; by this we see that upon eighteen days of last September there was a change, during the twenty-four hours, of more than 35° at Chiswick in the open air. The exact average of these eighteen days is 39°.

This subject, the meteorology of hot-houses and orchard-houses, is one that merits the attention of all who desire the advancement of horticulture. I am glad to testify that I have studied with great advantage the works of Messrs. Rivers, Bréchant, and Pearson on orchard-houses, and shall order with renewed interest the next editions if they will add a chapter on this subject. I believe it is the one thing needed to make orchard-houses universally successful, and I advise all who have trouble with theirs to look to the night temperature, for with ventilation the atmosphere is soon changed, and unless there is a back wall that has been warmed by the sun, to give out its heat all night, they may find that they are unwittingly engaged in retarding their August and September Peaches in a manner that, if they have pipes enough, will enable them to ripen them in November.—G. H.

PLUMS.—Too much praise cannot be bestowed on Rivers's Early Favourite. A few years ago I purchased of Mr. Rivers a few trees, one of which I planted against a south-west wall;



it now covers a space of 8 feet by 9, and this season I gathered nine gallons of Plums from it, and sold them at 1s. per gallon to a wholesale dealer in fruit in the country; moreover it is a good dessert Plum. I can also speak favourably of Coe's Late Red, also from Mr. Rivers, which, if permitted to hang late, is most delicious, as all my neighbours can testify.—JOHN STROVELD.

### MAKING THE MOST OF A HOUSE.

HAVING frequently noticed your willingness to impart information, and to render service to the numerous subscribers and correspondents of "our Journal," I venture to ask your advice under the following circumstances.

At the sale of glass by order of the executors of the late Mr. Veitch I purchased what was an old propagating-house. It is 33 feet in length, and 13 feet 6 inches in breadth, a three-quarter span-roof, the front slope being 9 feet, and the back 6 feet. There are at present no front lights. The house, which was only used for propagating-purposes, was divided lengthwise by a brick wall, which served to support the ridge of the roof, and a portion at one end was also divided off, and used as a potting-shed. Now, of course, I wish to dispense with all these superfluous walls, and wish to know the best method of supporting the ridge of the roof.

Next, I want you to advise me how to fit up the interior, and will, therefore, tell you what I require to grow. My chief object is to grow good Grapes, and perhaps a few Peaches on bushes, and some flowers, such as Camellias, Azaleas, Roses, &c., and Ferns. I presume you will advise me to have front lights added, in which case I thought of having a slate bench, 2 feet wide in front, for my flowers, and a raised bricked-up bed in the centre, in which I might plant or plunge Vines, trees, or Roses, &c.; and it has occurred to me that I might secure two crops of Grapes by planting Vines in an outside border, and keeping them out until these growing in the inside bed were well advanced. If you consider this plan practicable please say how the Vines should be trained. Can my back wall, which will be some 6 feet 9 inches in height, be put to any account?

I also want you to advise me how to keep the frost from my Camellias, &c. Of course I have no intention to force. I am inclined to believe that a flue, which can be easily managed by my groom-gardener, will effect my object. Should the flue be placed in the front part of the house, or should it run round the raised centre bed?—that is, provided you approve of this bed. My object is to make the most of my glass, and to work it in the most economical manner.

I shall be compelled to have a new east end, which will be the entrance, would you place the door close against the back wall, or in the centre?

Will you advise me how to ventilate my house? I thought of introducing some wooden shutters into my front wall, but do not see my way clearly to admit air through the roof. What Grapes would you recommend me to grow? I see the Muscat Hamburgh is much recommended in your columns for a cool vinery.—AMATEUR.

[We have read over your letter carefully. With all due credit for your particularity, you have left two particulars of moment unnoticed—1st, the height of the house where the unequal spans meet, and the height of the present front wall, or what you intend to make it. We shall suppose the height at the apex or ridge-board to be from 9½ to 10 feet; and as you propose having a slate shelf 2 feet wide along the front we presume you mean the height there to be between 5 and 6 feet, so as to secure you plenty of headway. In that case, for the general purposes you propose, we would recommend you to have three out of five parts of the front glass, either moveable sashes, or fixed if you have ventilators in the wall below your shelf. The first would be best; the second would scarcely cost half the money.

2nd. For fixing and keeping up the ridge-board there would be the support at each end; and then the simplest plan would be oak, or, better still, two or three neat iron pillars set on a pediment of brick or stone.

3rd. With merely keeping frost from Camellias, and nothing like forcing, you could not have two crops of Grapes in the house in the season by any arrangement of Vines in the house and others started outside; but you could have some early kinds, as Sweetwater, Royal Muscadine, &c., in pots, which would come in earlier than those outside, and which need not interfere much with those on the rafters.

4th. Our proposed arrangements would be the doorway in

the end, in front of the ridge-board, which would bring it near the centre of the house as respects its width. Then we would have a shelf, 2 feet wide as you propose, at front and ends, a shelf or border at back the same width, a pathway all round 2½ feet wide, and a pit in the centre 4½ feet wide. If the shelf were 2½ feet from the ground level the pit should be a few inches higher if there is plenty of head room. We would prefer Peaches, Nectarines, Figs, &c., in such a pit to be in pots or tubs rather than planted out, as you could move them out and put in other things in winter. To make much of the back wall the lower this pit is, say 18 inches, and the lower the plants grown in it the better.

5th. A flue starting low enough to come under the ground level until you passed the doorway, going along that end above ground, along the front, and across the other end, all beneath the shelf, and, therefore, out of the way, and then out into a chimney, would be quite sufficient for the keeping of the plants as you propose, and even forcing the Vines a little if you thought proper. By keeping the front outside Vines out of doors until they began to break naturally, you could also have Vines and Peaches pretty forward before you introduced them, but not forward enough with a due regard to your plants to give you two distinct crops in the year.

6th. A very neat and pleasant way of heating such a house, would be to take the flue all round under the pathway; the top of the flue, 9 inches wide, would thus form the top of the pathway, and furnish very pleasant walking all the winter. In this case the flue might be in the centre of the pathway in front, and close to the pit at back, which with some rough matter at the sides of the flue would give 2 or 3 feet for a border against the back wall.

7th. In this border Figs and even Peaches would do very well; but nothing will do well if the plants in the centre bed grow to the top of the house, or if the roof be densely clothed with Vine foliage. The continued success of trees in the bed and on the back wall will depend on the Vines being kept to the rafters, and the lowness of the bed plants permitting the sun's rays to reach, not unobstructed, but pretty freely, the back wall.

8th. To combine the greatest floral beauty and utility in such a house without useless crowding, we would plant the back wall with Camellias and Oranges, which would be a fine sight all the winter and spring months. We would keep the centre bed low, and fill it with a few Vines in pots, but chiefly Peaches and Nectarines, and would just give as much heat as would keep the flowering plants safe and help on the Peaches, allowing the Vines to break almost naturally.

9th. We had so far anticipated the last two questions, which we received in a second letter, by alluding to openings in the front wall for ventilation. We had made some wooden ventilators, pivot-hung, in the middle of the wall, as you propose, but considered afterwards that we would have had iron ventilators if we had thought of it in time, as they could have been slipped in at either side of the wall. The kind we allude to is on the same principle as ventilators for asphalt doors. For instance, suppose that the ventilator is 18 inches long and 9 inches wide, that space being divided from top to bottom into quarter-of-inch openings, and a quarter-inch space between, an inner plate fixed in the same way, with similar openings, and moveable by a little handle, will shut up the outside openings, or leave them more or less open. Of these you would require eight in the front wall. The simpler plan we adopted, was to leave spaces—say eight, in your length, 1 foot square, in building the wall, and in each of these have a ventilator of the requisite size, pivot-hung, in the middle of the wall, as by that means the ventilator would not extend much outwards when open. If the pivots are fixed at about the third of the depth, the ventilator will always shut itself by its own weight. Two screws act as pivot and hinge to each ventilator. If your back wall is not already built, we would have had similar openings, with similar ventilators, just below the coping, and if hung as we said you could open them, by a string attached to the upper part, less or more as you wished; and whenever you wished to shut the ventilator you would have only to give free play to the string. Such ventilators, if placed in the middle of the wall, as respects thickness, would always be out of the way, and interfere with nothing inside or outside. In one sense they would not be so good as the iron ventilators with the slide, as with the latter, and not more than quarter-inch openings, a mouse even could not pass in. Four or five of such ventilators would do in the back wall, if you had an opening at each end in the angle under the ridge-board—say a base of 18 inches, and the perpendicular of

the triangle other 18 inches. As we presume that the ridge and rafters to it are complete, if you have not the means readily of making these holes in the wall, you had better have openings—say five at the ridge of the roof, 2 feet by 1 foot, and these openings at each end, and then on very hot days you could open the door wholly or partially. Perhaps the easiest plan would be to raise the wall plate at back from 6 to 9 inches, and have that space for ventilation by wooden shutters, as you like. If openings were made in the roof, at the apex, they also could be pivot-hung, the lower two parts resting on the bars, and therefore above the general level, and the other third narrower, so as to fall down between the bars or rafters when a string was applied. The only objection to this simple mode is that the two parts of the ventilator stand up above the roof when fully open, which does not answer well in a windy day. The front and back wall is best, and if the top is high above the ventilators, an opening at the ridge at each end.

10th. The Muscat Hamburg will do in general seasons, but on the whole we would recommend for a cool house Royal Muscadine and Buckland Sweetwater, and Black Hamburg and Esperione. Of course it would make all the difference if you proposed heating.]

### THE CHRYSANTHEMUMS AT MR. SALTER'S, HAMMERSMITH.

MR. SALTER is not a grower of specimen plants for exhibition, and the would-be visitor to the Versailles Nursery must not expect to find there the huge bushes which are to be met with at the shows; but he has a collection which, for the number and perfection of the varieties of which it is composed, is unrivalled in this country. It contains, in fact, every good known variety, besides multitudes of seedlings, which are annually raised, and out of which not a year passes without some striking novelty or further advance on existing kinds being selected. Although not arrived at their full perfection when we saw them the other day, the show-house or winter garden was filled with hundreds of Chrysanthemums of every shape and size, from the little button of the tiniest Pompon to the large, full, and beautifully incurved Prince Alfred, with blooms  $4\frac{1}{2}$  inches across, and 3 inches deep, and so perfect that in their natural state they almost look as if they had been dressed. Add to this that the blooms offer an infinity of shades of white, yellow, orange, red, and combinations of each of these with the others, that the whole of the plants are arranged with excellent taste, and that other plants are judiciously introduced to give variety and tone down the colours, and it will readily be conceived how charming is the scene.

The arrangement of the house does not differ materially from that adopted last year; fruiting Orange trees in pots are grouped here and there, and the oval beds in the serpentine central walk are filled with *Centaurea candidissima*, Maiden-hair and other Ferns, a *Wigandia* occupying the central bed; and elevated at various points opposite these beds are standard plants of *Centaurea gymnocarpa* on stems about 2 feet high. *Woodwardia radicans*, grown in cinders and loam drenched with water, is suspended in a basket from the roof, and on the right, near the entrance, is a small group of *Cannas*, the almost-hardy *Chusan Palm*, *Pteris argyræa*, a *Polypodium aureum*, &c., and on the shelf on the same side Mr. Fortune's pretty and useful variegated Bamboo. On the left, opposite the entrance, is a small piece of rockwork, or mound, on which *Saxifraga hypnoides* minor forms a pretty dense green carpet along with *Sedum glaucum*, diversified with patches of the yellow variegated *Arabis procumbens*, *Sedum Sieboldi*, and *Echeveria secunda*, which was used with such good effect by Mr. Gibson at Battersea Park.

Having noticed these minor matters, we now come to the Chrysanthemums; and it may here be observed that the season has been extremely unfavourable, at least round London, to their blooming in perfection. The hot weather and drought stopped growth, and hardened the shoots; these, with many growers, have lost their leaves, and the blooms are not up to the average degree of merit. Mr. Salter, however, by dint of much labour and perseverance has succeeded in preserving his plants with good foliage, and the show is fully equal to that of last year, and when at its perfection will, probably, be superior.

The seedlings of the present year being of most interest we shall take them first. A good many were only opening, and had not as yet been named, and among these were several which were very promising, especially *Crimson Velvet*, which

Mr. Salter describes as the brightest crimson ever raised, being half a dozen shades brighter than *Julie Lagravère*, and not being very closely incurved, it shows the colour well. *Gloria Mundi* is of the same colour as *Jardin des Plantes*, but much more free, and will, therefore, be a great acquisition. *Golden Beverley* is another fine flower; it is a bright yellow sport of *Beverley*, and, only differing from it in colour, will doubtless take a high position as a show flower. *Hereward* is a fine lilac crimson, with the back of the florets rose, a close flower, and perfectly double; and *John Salter*, a finely incurved chestnut, Mr. Salter considers one of the finest seedlings he has ever raised.

The new varieties of 1861, sent out this year, were mostly noticed last November, and conspicuous among them this year is *Prince of Wales*, a magnificent beautifully incurved show flower, and being of branching habit, fine for specimens as well. *Pink Pearl* is very pretty in colour, and makes a fine pot plant, and *Virgin Queen*, is a beautiful pure white. *Golden Ball*, which received a first-class certificate from the Floral Committee on the 7th inst., was noticed last year; it is remarkably fine in shape, and the back of the florets is of a beautiful golden amber colour, but when it first comes out it is brown, which has led some persons unacquainted with this peculiarity to suppose that they had not received the true sort. *Golden Dr. Brock*, a sport from *Dr. Brock*, is another finely incurved golden yellow flower. Mr. Wynness, a rich mulberry, which we saw last year, was not fully out, and so, too, was *Venus* one of the most beautiful flowers of last year. Others consisted of *Ranunculus*, *Iago*, *Blanche de Castille* in the way of *White Queen* of England but more free; *Princess of Wales*, most beautiful in colour, pearly white, exquisitely tinted more or less with rosy lilac; *Mr. Brunlees*, a striking variety, brown tipped with yellow; and *Prince of Anemones*, large lilac blush, with a very high centre. The last, however, which belongs to the anemone-flowered section, should have been included among the varieties of 1865.

Of older varieties there was an endless succession, comprising *Alma*, *White Queen* of England, *Lord Clyde*, *Sir Stafford Carey*, *Alfred Salter*, *Hermione*, *Vesta*, *St. Patrick*, *Florence Nightingale*, *General Slade*, *Mr. Murrey*, a very free-blooming conservatory flower; *Little Pet*, also free blooming; *Bernard Pallissy*, *Little Harry*, &c. *Tasselled Yellow* and *Duc de Conigliano* are showy kinds for conservatory decoration, especially the latter, which is large, and of a rich red colour.

Among Pommpons were a seedling darker than either *Bob* or *Brilliant*; *Lucien Cabouche*, a new shade of rosy lilac; and *White Trevenna*, a very free-flowering white sport from *Rose Trevenna*. This last, however, has already been sent out.

In the lean-to house at the back of Mr. Salter's house were some new continental Zonale Geraniums. The best of those in flower were *Jules César*, light scarlet with a white eye, the petals broad, and the habit dwarf; *Eblouissant*, deep scarlet, with a white eye; and *Madame Reutadler*, rosy salmon, with a lilac tinge, and very brilliant in colour. The truss was close and round, and the individual flowers about  $1\frac{1}{2}$  inch across, with broad rounded petals. This variety was very striking. Another pretty variety was *Madame Werlé*, white, with a little pink at the base, and running up the side of the petals. In the same house was a new variety of *Cineraria maritima*, which it is expected will be less lacinated and not so rambling as the common form. There was also a variegated *Hedera algeriensis*, a seedling of Mr. Salter's, with the foliage of that large-leaved Ivy variegated with white.

Out of doors the Chrysanthemums had suffered little from frost, except a few of the whites, and the borders were gay with both large-flowering and Pompon varieties; there was also a large batch of seedlings in bloom from seed sown in March of the present year. We noticed a little white Pompon called *Marabout* which is beautiful for bouquets, being like a fringed Pink, and which is largely employed at Covent Garden for that purpose. *Laciniatum*, one of Mr. Fortune's Japanese varieties, Mr. Salter kindly pointed out as being of a similar character, and even preferable to *Marabout*.

### OUT-DOOR FIGS RIPENING AUTUMN FRUIT.

You may remember a short discussion under the above heading, commencing at page 91 (August 1st). I stated in a succeeding Number, that we were getting fine, ripe, out-door Figs here in plenty, in the last week in July. I think it now worthy of remark, that the same trees are yielding a second



crop. We have gathered a basket of fully ripe Figs this afternoon (November 3rd), and they are as fine in flavour, but not so large as the first crop. There were fifteen in the basket; many more could have been added, but the invitation to proceed further was declined. These are, of course, the Figs that are not expected to ripen in the autumn, and but rarely escape the frosts of winter.—A. T., *Noirmont, Jersey*.

We have gathered here (near Horsham), the second crop of Figs out of doors. Such a thing has not been seen by an old gardener that has been in this place twenty years. They are the White Marseilles.—B.

### STAKES FOR PLANTS.

The staking of plants, &c., had been an eye-sore to us for some time, and a few seasons since we adopted a plan to which we desire to draw your attention; it is that of making stakes of galvanised wire, and shoeing them with wood for out-door work, but using them unshod for *Pelargoniums*, &c. They are scarcely observed when a plant is nicely tied to them, and we have, since we adopted them, used nothing else. The shoes will last several seasons, and the wire perhaps twenty years. We make them thus:—

The wires may be stout, thin, or medium, at pleasure. The shoe is of red wood, and a hole is bored, the wire put into a vice, and the shoe struck on. Any person fond of neatness will be pleased at their appearance, or rather non-appearance, the foliage generally hiding them.—GEO. BURTON & SON.



### MANGO AND GUAVA CULTURE.

In reply to the letter of "G. S." in your last Number, I beg to say, that the Mango will grow from cuttings if they are taken from the half-ripened wood, cut through a joint, and placed in a gentle bottom heat, as I have reared the tree myself in this way. At the same time I quite agree with your correspondent that it would be far better to procure healthy plants of some of the best varieties from Bombay or Madras, as well as seeds, which if brought over in damp earth grow readily.

I have no doubt but that "G. S." is right in what he says about the Mango, and I should be the last person to lay down rules for the cultivation of a tree whose habits I understand so little. At the same time I must say I never succeeded in fruiting it in any ordinary stove, although I have often tried, and it was not until I kept the trees dry and hot in winter that I did so.

With regard to the Guava, I have grown Cattley's Guava (*Psidium Cattleianum*), and it has the double advantage of bearing well, and being very ornamental, but I do not consider it equal to the White Guava (*P. pyrifera*), which has a finer-flavoured fruit, about as big as a duck's egg, of a beautifully golden yellow colour. The latter tree is very shy of bearing in England, unless grafted on the *P. Cattleianum*, when it fruits plentifully. If both varieties are allowed to grow together on the same stock the effect is very good, the deep claret-coloured fruit of *P. Cattleianum* contrasting beautifully with the golden *P. pyrifera*. All the Guava tribe grow readily from either seeds or cuttings.—J. H.

### CONSTRUCTING STRAW COVERS.

In compliance with the request of several correspondents we repeat the directions given by Mr. Fish in Vol. XIII. for making these effective and inexpensive coverings.

Measure the length and breadth of the sash to be covered, so that in covering a pit the covers fit closely to each other all the way along. Then to make a single cover, get three slips of wood 1 inch thick, and from 2 to 3 inches broad. Two of these form the sides of the cover, and one goes right in the centre. You will perceive that these three pieces will sustain the whole weight of the cover. Being set out to the requisite width,

cross pieces are nailed to these three longitudinal pieces, first at the two ends, and then at 15 to 18 inches apart in the intermediate space. This forms the skeleton of the cover. You now turn it upside down, so that all the cross pieces are downwards, as these, independently of supporting the straw, keep it also at a distance from the sash. As it is desirable not to strain the three longitudinal pieces, these cross pieces are only half the width of the long ones. The spaces between the longitudinal pieces are now neatly filled with straw; so that when firmly pressed it will be as thick as the longitudinal pieces—namely, 1 inch. The straw is put in so as to mix the upper and lower ends regularly. Then, beginning at the middle of the corner, a tar-string is fastened to one of the side longitudinal pieces, opposite one of the cross pieces beneath, is pulled firm to another tack in the central longitudinal pieces and taken from thence to another tack on the opposite side, piece. A string goes across, opposite every cross piece of wood, until the bottom and upper end pieces are reached, when a cross piece of wood is nailed on similar to the one on the opposite side, as being better for taking hold of when covering and uncovering than the straw fastened with a string. In a cover rather better than 4 feet wide, it will at once be perceived that there will be fully 18 inches of string from the side longitudinal piece to the central one, and that space is too much to enable the string to keep the straw firm in the various vicissitudes from dryness to wet. In the centre of each of these spaces, therefore, a loop is put over the string, passed through the straw, and fastened firmly round the cross piece on the under side. Firmness would at once be secured by placing cross pieces of wood over the straw, similar to those underneath it, and I did so for some time; but then the covers were more expensive at first, and did not last so long; because, in the first place, they were heavier, and strained the longitudinal pieces more; and secondly, because in wet weather the wet lodged at the cross pieces, and thus occasioned rotting there. I may add, that I like the straw to be drawn before it is thrashed. The soft ears are thus got rid of, and the straw tubes are not bruised by the flail or thrashing-machine.

### PITS FOR BEDDING PLANTS.

A VERY common complaint amongst gardeners is that in spring they have a great deficiency of accommodation for their young stock of bedding plants, and it is certainly very disheartening for a gardener, after having successfully managed to keep through the winter a good stock of *Calceolarias*, *Verbenas*, &c., in boxes, when spring comes and vegetation becomes active, not to know what to do with them to give them the needful additional room. He is often obliged to huddle them together into pits, almost as closely as they were in the boxes, and the consequence is they become drawn up to long spindly shoots, deprived of their lower leaves, and so become weakened.

I think it would not be lost money for any gentleman, whose gardener has much to do with bedding plants, to erect in a neat and substantial manner, and in extent according to the requirements of his establishment, a range of pits similar to that of which I enclose drawings.

Besides being useful for bedding plants, by good management and forethought they could be doing good service all the year round. A crop of Melons and Cucumbers could be put in at the beginning of June after the bedding plants had been cleared out; and after the Melons and Cucumbers were done, I think, provided the pits were closely fitted up, it would not be impossible to carry on the forcing of Dwarf Kidney Beans, Lettuces, Radishes, &c., during the winter months, but, of course, in this case judicious firing and careful matting over would be necessary for success in frosty weather.

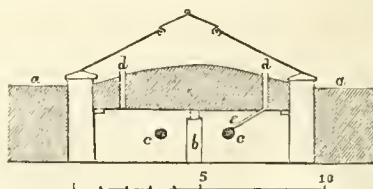


Fig. 1.

In Fig. 1, *a a* is the ground level; *b b*, a line of pillars, on the tops of which is laid a strong beam for the support of the planks on which rests the soil of the bed; *c c*, hot-air chamber,

with flow and return hot-water pipes; *d d*, pipe in connection with the hot-air chamber for the regulation of atmospheric heat; *e e*, a connection between the pipes *d* and the evaporating-pans on the hot-water pipes, by which means water can be poured into the pans, and moisture admitted to the atmosphere at pleasure.

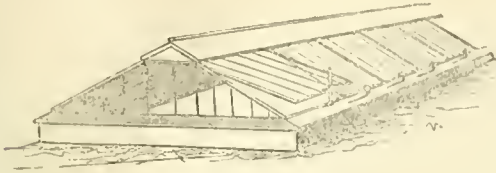


Fig. 2.

Fig. 2 shows the way in which the sashes are tilted up for bottom ventilation, by means of a plate of iron fixed with a joint to the coping of the wall of the pit, and pierced with holes for the admission of a peg, fixed into the centre of each sash. The ridge at the top, which may either be of glass or board, is intended to be raised by some simple mode of lever power from one of the ends, which will secure abundance of top ventilation.

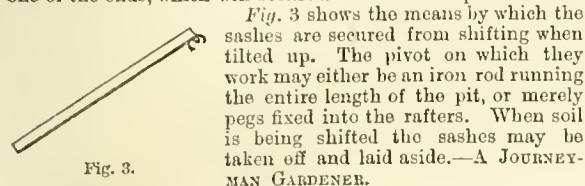


Fig. 3.

[There is not, we think, much that is new in your proposed pits, but they would be none the less useful on that account, and the mode of ventilation, especially, is simple and good. We have repeatedly given utterance to the idea that so much cramming of bedding plants, &c., under glass in winter and spring involves a vast amount of labour in shifting plants from place to place, and that the expense of that labour would ere long provide mere glass, so as to avoid the necessity of so much moving. Many gentlemen see this as well as we do, but the extra labour is only a small annual per-centage on what the cost of houses would be at first, and therefore here, as in many other respects, the first expense is the difficulty to be surmounted. Perhaps our correspondent's arguments will have success when ours have often failed. One standing argument amongst ladies and gentlemen is shortly this, that providing they were to build these ranges of pits ostensibly for bedding plants, only a short time would elapse before they would again be requested to do the same thing, the pits having proved themselves so useful for general purposes, that as much convenience for bedding plants is wanted again. We must confess that there is no little truth in such arguments, as most gardeners who wish to do as much as they can to please their employers, use one such concession as a sort of fulcrum for resting their lever arguments for securing another and another improvement. Most servants are careless about increasing what would add to their labours; but gardeners, as a class, leave this out of sight, and will even encounter the additional labour when told they can have no more labour power to help them. In the management of such proposed pits there would often be less labour than is now involved from the necessity of constantly moving, to suit the wants of the denizens in houses and the merely temporary occupants.]

For mere bedding plants pits would do very well without a chamber and bottom heat, with merely a pipe round them, or the pipes in front, and would cost much less than sunk pits, and hundreds of gardeners would be glad of such structures. But for the extra expense, however, we would much prefer pits like those of our correspondent, and to have a platform instead of soil or ashes for setting the plants on, as such pits enclose a much greater amount of air, and therefore are less liable to sudden fluctuations of heat and cold. We are supposing that the platform is sufficiently open to allow the air above and below it freely to commingle.

Such pits with bottom heat, and means by drain tiles or other openings for that heat to pass upwards when necessary, would do admirably for Cucumbers and Melons in summer, and for Radishes, Lettuces, Rhubarb, Sea-kale shaded, and Asparagus with plenty of light, in winter and early spring, and would be first-rate for bedding plants—say from the end of February,

or as much earlier as might be convenient, or all the winter through; but our practice would lead us to say that if Kidney Beans are attempted in winter, there should be two pipes in addition for top heat, as assuredly in severe weather, even with mats on the glass, the two pipes in the chamber will not be enough to keep the plants healthy. True, we have grown such Beans successfully in the common dung-pit and frame in winter, but all who have done so know the trouble it involves in dull muggy weather, and how nicely a hot-water pipe would keep all dry and sweet.

After saying so much, we may add, that not having such pits as our correspondent so well recommends, we use common earth-pits, or turf-pits, with any little protection we can obtain from calico, mats, hurdles, &c., for thinning our bedding plants, and in these pits we begin to plant out the hardiest in the beginning of March, planting them, according to kinds, from 4 to 6 and 9 inches asunder; and although the plan gives trouble, there is no drawing up and weakening of the plants, as would be sure to be the case if the plants were placed close together in a cold pit, &c., without this planting out. One word more; in the southern counties these span-roofed pits of our correspondent will answer very well. In very cold exposed places it might be desirable to revert to the old lean-to roof, merely for securing more warmth, even if there should not be quite so much direct light.]

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

Much as there has been written on the utility of trenching the ground in kitchen gardens, and bringing up a portion of the subsoil to mix with the surface soil, when the latter is said to be "worn out" with constant cropping, some persons are still blind to its advantages. If the subsoil is a stiff loam, they are fearful of mixing a small portion of it with the surface soil, although the latter may be like an ash-heap, and as rich as dung can make it. We are aware that it requires some judgment as to the quantity of the subsoil to be brought up, as the texture of the soil may be materially injured by a large quantity at one time; but it can rarely so happen with a small quantity, and as very many old gardens would be greatly benefited by this operation, we hope the present favourable weather will be taken advantage of for the purpose. *Artichokes*, immediate steps should be taken to protect the roots from frost, if not already done. In some situations this may not be necessary, but it is best to be on the safe side. *Cabbages*, all that are sufficiently grown to admit of being earthed-up, should have it done before frost sets in. Red Cabbages for spring use may still be planted. *Cucumbers*, the plants should be kept as near the light as possible, nothing can supply the want of it, while heat, air, and water can be given as required. *Endive*, take up and plant in a frame some of the most forward, so that should severe frost occur there may be a supply. *Dwarf Kidney Beans*, add soil to the last sowing as they grow, until the pots are nearly full. Keep those in bearing well supplied with water. *Mushrooms*, take advantage of wet days for making fresh beds, and clearing out those that are spent, also collect and prepare droppings for forming fresh beds, by spreading them in a shed and turning them over frequently until they are sufficiently dried to prevent excessive fermentation after putting up. *Radishes*, these are sometimes required all the year round, where this is the case, it will now be necessary to sow in a slight hotbed. After they are up air should be given at every favourable opportunity. If they are sown immediately they will be ready to draw in the latter end of January. *Rhubarb*, a few old roots may be taken up and planted in boxes or pots, which may be placed in a Mushroom or forcing-house where the heat is about 60°. Clear up all decaying leaves, &c., and on dry days stir the surface of the soil among growing crops, as Cabbages, Spinach, &c. No vacant ground should now remain undug, it is sometimes the practice to leave the whole of the digging till frosty weather sets in, but by so doing half the benefit the soil would receive is lost, and independently of this it makes the garden look very untidy.

### FRUIT GARDEN.

Pruning and nailing should now be proceeded with every fine day, even although it should delay some other work which can be done with more comfort in bad weather than nailing. It is most important to have the latter done while the weather is mild. Nailing is a cold enough job for even a warm winter's day, but to turn men out to it in very cold or wet weather, and



expect them to do a fair day's work indicates bad management. If any transplanting or root-pruning of fruit trees has yet to be done, let this be attended to without further loss of time, and see that those exposed to the wind are securely staked before leaving them.

#### FLOWER GARDEN.

The weather is still favourable for executing alterations, and where these are in hand they should be carried on with dispatch. Take advantage of frosty mornings for wheeling dung, &c. Planting, or the removal of large trees or shrubs, should be attended to, for it is of importance that the plants should be afforded some chance of making fresh roots before the trying winds of March. See to even small plants being secured against wind, for these are often greatly injured by being blown about after planting, which a small stake and a few minutes work would prevent. Collect a stock of briars for budding upon next season. As tree leaves are always in request, either as fermenting material or for leaf soil, they should be collected at this season; if they are required only as manure they may be stowed away in any byplace and left to rot, but if, as is generally the case, they are in demand as a cheap mode of furnishing bottom heat for forcing, some pains should be taken to keep them dry. For this purpose they should be stacked up in some back place, or behind the garden walls, where access can be had to them at all times, and after allowing time for them to settle put on a coat of thatch to effectually secure them from rains. By these means they will be found in a state fit for use for twelve months.

#### GREENHOUSE AND CONSERVATORY.

While the principal collection of Chrysanthemums is in bloom, a selection should be made of the best and most useful sorts, for there are many worthless varieties in cultivation, and it is better to grow duplicates of the really good kinds, than to retain such as are indifferent, merely for the sake of having a long list of names. Give timely attention to providing a succession of bloom with which to keep the conservatory gay, and avoid as far as possible the expense of hard forcing, which is, moreover, very injurious to most plants. Be careful not to let things in bloom suffer from the want of water, giving weak clear manure water to Chrysanthemums, Salvias, Camellias, &c., and use every means to preserve the beauty of specimens in bloom as long as possible. Damp and mildew are the great enemies to be guarded against in the greenhouse, and these must be sharply looked after, especially in the case of plants that have not well ripened their growth and are in a rather soft state. If the former is troublesome it must be dispelled by means of free ventilation on mild days, using a little fire heat at the same time, and for the latter a dry airy atmosphere is the best preventive; but the plants should be frequently examined, applying sulphur on the first appearance of the enemy. Very little water will be required here at present, but the plants to be carefully looked over twice or thrice a-week, so as to make sure that nothing may feel the want of it. If not already done, let the plants be tied with the least possible delay, for it is difficult to tie a plant so that it will not look stiff and unnatural, and the sooner all this kind of work is done the better the specimens will look when in bloom. Above all, avoid crowding plants. It matters not how good the potting may have been, or how careful the waterings, those who will huddle the plants together must be content with leggy stock, and, what is even worse, with insects.

#### STOVE.

Let the resting section of Orchids settle quietly down towards their winter's rest, by withholding water at the roots, by diminishing the amount of atmospheric moisture, and by permitting a much more liberal ventilation than in the growing season.

#### PITS AND FRAMES.

All stores intended to be wintered in these structures should now be finally arranged as soon as possible. A dry atmosphere with a considerable amount of ventilation day and night are the requisites. An observant person may take a hint from the Verbenas which remain out in the beds. How often do we see them green through a great part of the winter. They are well established, however, at the root, and would infinitely prefer a moderate dry frost to a moist confined atmosphere.—W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

VERY much the same as last week. The rains have made Cabbages grow so freely that we shall earth them up at the first

opportunity, not only to protect the stems, but also to keep them from being moved by the wind. We prefer leaving a slight gutter in the ridge, in case it be necessary to apply manure water in spring. Nothing in dry weather is more benefited by sewage or other manure water, and when such is applied the produce will be tender and sweet instead of hard and stringy. In the whole range of vegetables nothing will beat a sweet tender Cabbage well cooked, and we never consider them well cooked unless they are bright in colour and pretty well as melting as marrow. Summer-planted Coleworts after the frosty mornings are just now at their best, and best they are. The quarter of Cabbages planted in the autumn of 1864 is still a mass of young Cabbage Coleworts after being cut over so often, and we generally leave them until exhausted in spring, as in common winters they furnish nice cuttings all the winter. After such hard work for the ground, we generally follow with Celery. At one time we fancied that the sproutings from the Cabbage were not so tender as young Coleworts planted in summer; but after many trials, and especially if the old Cabbages had the help of a soaking of manure water in summer, we have failed in detecting any difference between them. There is, no doubt, something in the cooking; but one great cause why vegetables are often unsavoury, and in a condition to bring on indigestion with all its attendant horrors, is their being kept too long, and wetted or heated before they are placed in boiling water. No wonder that in many large establishments vegetables are sent away scarcely touched, the sight of them being quite enough. Even a young Cabbage to be served up in perfection should be cut only a short time before it goes into the pot. A first-rate judge of what was good would not have his Marrow Peas gathered longer than just to give time to shell and boil them. Just imagine the difference after being well heated in close-packed sacks, or lying about a day or more in a hot kitchen.

*Cauliflower.*—The weather being somewhat uncertain, and a little frost being rather telling after so much wet, removed some of the larger lower leaves from a nice lot of Cauliflowers just showing little heads, took up the plants with what ball could be secured, and planted them thickly in trenches in an earth pit, on which we could lay some old sashes and other protection. In placing the plants in the trench we laid them slanting rather than upright, so that their own leaves would give a good deal of protection. We also gave a good watering when the trench was half filled, and when settled placed the dry earth over it before cutting back the next trench. That watering will be all that they will require in the way of moisture; and with dryish soil on the surface and plenty of air in mild weather, we have no doubt that they will do well if we can manage to keep rats and mice at bay. They have hitherto been our greatest enemies, and if much covering-up is required they make great havoc amongst Endive as well as Cauliflower. Where game is made a matter of first consideration, rats and mice will be sure to increase too much at the farm-stead and the garden.

*Lettuces.*—Did the same with this necessary for salads, though much less is used in winter than was wont to be the case. People are beginning to think that all such cold ingredients are most suitable for summer. If never used at all in winter it would save much trouble and room to the gardener. We also took up plants with good balls, and planted them rather closely together, watering as in the case of the Cauliflower, and choosing some not only fit for use for a month or two, but younger ones coming on in case they should be wanted.

*Endive.*—Did much the same with Curled and Plain-leaved. The Moss-curved has been very compact and good. At this season we often take up the Endive and trest like the Lettuces, as when blanched and protected where grown more or less litter is always an accompaniment. A flat slate or tile is as good a way of blanching as any; a covering of dry tree leaves or dry straw also answers very well. Those who are fond of Endive may have it all the winter through in first-rate order, if they can secure a dry cellar, a dry close shed, anywhere provided it be dry, darkish, and frost-proof. From such positions, placed on the ground, or on benches, or in boxes, we have had it very fine until the end of March. The essentials are—taking up the plants when dry, with fair-sized balls, packing them closely, and for two-thirds of the height of the balls, in moist earth, or made rather moist without wetting the leaves, and covering up the other third with dry earth, or dry ashes. So treated the plants would grow very slowly, the moisture being enough to keep them from shrivelling. They would also blanch in the darkness; and the dry atmosphere around them, and



cool withal, would keep them slowly moving in their blanched state without damping or decaying. We have had Endive very good until the new year, by merely taking up the roots with a ball, and setting them in a dark place without any packing at all, but to keep them later requires a dry surfacing, and a dryish atmosphere, to prevent the blanched leaves damping.

*Chicory* and *Dandelion* roots may be packed in pots and boxes in a similar way, and the leaves will thus blanch as they grow. In their case it is best to take away all the leaves, and just keep the crowns as in the case of Sea-kale. A very simple and pretty way for securing such medicinal salads in winter, is to take an old barrel capable of holding soil. Begin at 6 inches from the bottom, and bore a row of holes, half an inch in diameter, and 6 inches apart, all round. Six inches above that make another row, and so on to the top. Then place dampish soil rather firmly in the bottom of the barrel up to the level of the first row of holes, then place a layer of roots all round, bringing the buds or crowns of two or three plants, according to their size, outside the barrel through the holes. Cover up with earth rather firmly to the next row of holes, and so on to the top, finishing with a layer of moss, old hay, chaff, or other nonconducting material, so as to keep the moisture from evaporating. Any dark place rather dry, and with a temperature ranging from 40° to 45° and 50°, will answer. The head or leaves may be cut as soon as they become long enough, and if the place is dark they will be sure to be a yellowish white as they grow. The same heads will yield two or three cuttings. If the leaves are seldom beyond 6 inches in length they will be firmer and more juicy for the salad bowl. After thus serving a salad purpose, we have known cases of the roots being used medicinally, or even dried and ground to be used as coffee, but after cutting the salad we should think that very little virtue of any kind would be left in the roots.

*Dwarf Kidney Beans*.—Gathered all the Beans worth anything from our last plants under protection out of doors. As it is, they have been very useful. The plants have been taken up, and the position occupied by them came in for the Lettuce and Endive. Turned a lot of young plants out of pots into a bed where they can have heat, and will keep a lot more in six-inch pots until we can find a little more room for them. But for the room and the heat they require, few vegetables are to be preferred in winter to Kidney Beans. Sometimes it is as well to have a few weeks' interval between the last out of doors to the first forced ones. It is not bad policy at times to keep in mind what the late Mr. Beaton, with characteristic shrewdness, said about new Potatoes in December. In the middle of January and onwards they would have been differently estimated.

*Potatoes*.—Went over those in bins, and found a great many diseased that seemed perfectly sound and a fine sample from a very heavy crop at taking-up time. The proprietors of cottage gardens, in low level districts, have suffered severely this season at taking-up time and since; and a nurseryman told us the other day, that some of the newest kinds suffered with him to the greatest degree, in some cases not even returning the quantity of seed in sound tubers, though producing rather heavily. This tendency in apparently fine healthy crops to go wrong after being carefully housed, is one of those things about the Potato disease which make it still more difficult to understand anything about either cause or cure.

*Sea-kale, Rhubarb, Asparagus, &c.*—We are having a fermenting heap of dung, grass, and leaves put in readiness to enable us to start these vegetables ere long. For want of other means at times, we have had these vegetables good in a hot-house. Sea-kale we have had very early and good in the coolest part of a Pine-stove, by planting the roots in a 12-inch pot, setting a second pot reversed on the top of the first, running a straw rope daubed in clay paint round where the pots met to exclude light, and securely stepping up the hole in the bottom of the upper pot.

*Mushrooms*.—The first piece in the Mushroom-house, though spawned and beaten down, seemed rather too loose on the surface to please us. It was, therefore, well daubed all over with the fists and mallet, levelled, and then made smooth by watering a little on the surface, and drawing a clean spade firmly over it. On the whole we like a firm smooth surface best. In this house we shall most likely introduce Sea-kale, Rhubarb, &c., with just enough of fermenting material below them to set them going. We shall try to have a one or two-light box set to work before long with Asparagus, but we have so overdone our Asparagus for several seasons, that we do not wish to have it before Christmas this season, and, if all is right,

with a mild heat, a month or five weeks will be quite enough of time for bringing it in.

From what is stated above as to Potatoes, though no other vegetable will ever take their place, it would be wise policy for our cottage gardeners to grow less of this root and more Carrots, and, especially, Parsnips. The latter if grown in fresh, well and deeply stirred soil are seldom attacked by disease or other evils, whilst they have highly nourishing qualities. For Celery, &c., see previous weeks.

#### FRUIT GARDEN.

As all the lights were taken off the Peach-house to allow of rafters, &c., being repaired, pruned and washed the trees, scraped off an inch or more of the surface soil, fresh surfaced with maiden soil, and prepared for filling the floor with bedding plants, and setting Strawberries on the shelves. These who wish to have Peaches and Grapes in May, must shut up the houses now, but should give little fire heat except on frosty nights for a fortnight or three weeks to come. The trees in the orchard-house are throwing off their leaves nicely as they turn yellow, showing that the ripening process is complete. We have no fruit left now, except Plums and a few Grapes. Of Grapes, we planted several of what we had for Buckland Sweet-water, but the little fruit we left proves the Vines to be Chasselas Musqué, or Jesling's St. Alban's. The flies were very keen at it, though they seemed to have a little difficulty in penetrating the skin; but in this cool position, and not over-supplied with water, not a berry cracked, and the flavour was delicious. We are inclined to see what they will do, as the flies could be mastered or excluded. Pruning all the hurdier fruits may now be proceeded with, and fruit trees of all kinds may be planted forthwith, and if there are a few greenish leaves on the trees all the better. For general routine see last week. In late February kept a good fire, with air on, in the damp foggy days.

#### ORNAMENTAL DEPARTMENT.

At page 389, second column, forty-second line, in the words "pruning and striking old Geraniums," the word "striking" should be "sticking." The fine, vigorous Geraniums being well snagged or pruned in as stated, and the roots shortened, are stuck into the pots as closely as the roots can be packed, from twenty to twenty-four being placed in a 12-inch pot, the heads, however, extending a little beyond the rim. These will please us well enough, if they just keep alive and do not make a fresh leaf until March. Of course, not a leaf is left on them now. The weather has been so unsettled, and so many things in hand, that this work is not yet finished, nor are all our *Calceolaria* cuttings in.

We would have liked as well if all these *Calceolaria* cuttings had been in before November, but they will do any time this month, if not frosted, and we have had no frost as yet to injure them. The failures with old Scarlet Geraniums and these cuttings of *Calceolarias*, most generally take place from want of patience. In the case of the old Geraniums, people are anxious to see them grow, and, therefore, they water and coddle them, and every sign of fresh growth in winter makes them more sensitive to cold and damp. Then in the case of *Calceolarias*, the cuttings are taken up every week or so, to see if the roots are coming, and because they do not appear, heat in some way or other is applied, and a close, warm atmosphere is kept about them, encouraging, at any rate, a weak elongation upwards, if not rooting downwards, and making them more liable to feel every change and vicissitude of the weather. If our cuttings in the cold pit remain pretty stationary for two or three months we shall like it quite as well. We believe many stood as long as that before they showed a root last year, and yet they looked as upright, bold, and robust as if they had had a lot of roots. Such little side shoots as were recommended, if firmly dibbled in, and watered at the time, will stand a good amount of air, and even of sunshine afterwards, without flinching. After this planting, they generally receive little attention from us, except protection in frosty weather, and a light skiff from the syringe in very sunny days. When very sunny just now, we also keep the sashes generally shut. In dull weather a little air is given, and always at night if mild.

We were led by degrees to put in *Calceolarias* late from finding, first, that they always did better and were more free from diseases and insects if they never had the slightest artificial heat; and then, secondly, from finding that the more forward the plants were in cold pits and frames the more easily were they injured by frost and continued shutting-up in winter. We have frequently in continued frosty and bad weather had the *Calceolaria*-bed shut up from a fortnight to a month. There



ought to be no growth inside if the temperature is low enough to be only a very few degrees above freezing; but in practice we have found that the plants fairly struck and growing would sometimes change their colour a little, at other times have damped leaves upon them, which would require to be taken off; whilst those with not a root, or one or two about an eighth of an inch in length, would look as green and stubby after being shut up a month as when they were only a week inserted. Patience, then, with Calceolaria cuttings, we advocate to all who wish to make a fine display with hardy plants next season. We shall be quite content if they make roots in as many weeks as they would require days, or even half-days, in a slight hotbed in March and April. We have done exceedingly well with spring-struck plants, but we like those from cuttings inserted in autumn better. As a recommendation to patience we may add that cuttings inserted in the beginning of November last year, and that had scarcely more than the sproutings of roots in the beginning of January, were amongst our best plants this season. The very simplicity of the whole affair is against it with all those who will not have patience to wait.

If we cannot take up most of the Dahlias soon, we shall place a little earth against their stems. Most of the beds have now so much lost their beauty that we have commenced clearing away slowly the summer residents. We say slowly for two reasons—first, the weather being in general so unsuitable, and then on a dry day the bulk and weight to be removed being so much out of the common, owing to the great heat of the summer, and the warm rains in the autumn. The material, as Geraniums, Pentstemons, Calceolarias, Verbenas, Ageratums, &c., has been largely used in banking up lots of frames, to keep frost from them, part will be used for covering a lot of rubbish, which we will attempt to char and burn, and the rest will go to the rubbish-heap, and be sprinkled over with earth.

Among a variety of other matters we may mention potting and shifting. We planted a pit with Violets for winter and spring gathering, potted bulbs, made fires in the conservatory in the day to dry up extra damp, and were busy in filling all gaps and holes in the glass, as every such opening admitted water and cold air. It is of little use for the gardener being disturbed if named Jack-of-all-trades, for though holding that every man will do that best to which his attention is chiefly devoted, there are many things that must be done when it would not be convenient to wait for a regular tradesman. In our younger days we have not seldom turned glazier in our dinner hour, when we had the misfortune to break a square or two of glass, and the chief point was to get the putty coloured so that the particular superintendent should not see that an accident had occurred. If there was a spice of concealment it might receive a little justification, because it kept matters smooth, and injured no one, as after the glass had been broken it could not be helped. No, the helping must be done by carefulness in preventing an accident, and not by excuses afterwards. In all gardens not large enough to keep a painter and glazier, the gardener should never be without a cutting diamond, glass, and putty. Hardly anything looks more dismal than sashes abounding in holes.

"STELLA" wishes to have an answer in this place on two matters. First, as to *Cineraria maritima*. Let the edgings of two beds remain as they are, and if they stand the winter well, cut them freely down in April, and they will shoot regularly for the summer. As respects the other two small beds, take the plants up carefully, prune them well back—say, within 4 or 6 inches of the soil, pack the plants lightly in pots, and keep them in a dry place as recommended for Centaureas, and next season you may plant them out; but our chief object in advising you to cut the plants in is, that thus you may obtain myriads of nice, firm, young shoots, which, slipped off when from 3 to 4 inches in length, will strike fast in a little heat, and for moderate edgings will be far superior to old plants, and not throw up flower-stalks as older plants do. Secondly, as to Japan and other Lilies which were potted last autumn and have flowered pretty well, and of which the stems are now withered, the best plan you can adopt is to take a portion of the surface soil away, top-dress with rich compost, and place the pots on what you say is the damp floor of your little cellar. Supposing the soil is dampish now, from the moist stones the pots will take up enough of moisture for the winter, and may remain there until the shoot begins to show above the soil.—R. F.

#### TRADE CATALOGUE RECEIVED.

F. & A. Dickson & Sons, 106, Eastgate Street, Chester.—*Catalogue of Roses.*

#### COVENT GARDEN MARKET.—NOVEMBER 11.

THE supply is moderate, and a fair amount of business is being done, prices remaining pretty nearly as last week, with one or two exceptions. Foreign imports are light as compared with what they have been in some seasons, Pears and Apples not keeping any better on the other side of the channel than they do on this.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	1	0	to 2	0			
Apricots.....	doz.		0	0	0	0			
Cherries.....	lb.		0	0	0	0			
Chestnuts.....	bush.	12	0	20	0				
Currants, Red ½	sieve	0	0	0	0				
Black.....	do.	0	0	0	0				
Figs.....	doz.	1	6	3	0				
Filberts.....	lb.	0	9	1	0				
Cobs.....	100 lbs.	120	0	140	0				
Gooseberries.....	½ sieve	0	0	0	0				
Grapes, Hambro.....	lb.	3	0	6	0				
Muscata.....	lb.	5	0	8	0				
Lemons.....	100	8	0	14	0				
Melons.....	each	3	0	to 5	0				
Mulberries.....	punnet	0	0	0	0				
Nectarines.....	doz.	0	0	0	0				
Oranges.....	100	10	0	20	0				
Peaches.....	doz.	0	0	0	0				
Pears (kitchen).....	doz.	2	0	4	0				
dessert.....	doz.	1	6	4	0				
Pine Apples.....	lb.	7	0	10	0				
Plums.....	½ sieve	5	0	0	0				
Quinces.....	½ sieve	3	0	4	0				
Raspberries.....	lb.	0	0	0	0				
Strawberries.....	lb.	0	0	0	0				
Walnuts.....	bush	14	0	20	0				

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	each	0	4	to 0	6				
Asparagus.....	bundle	0	0	0	0				
Beans Broad.....	bushel	0	0	0	0				
Kidney.....	½ sieve	0	0	0	0				
Beet, Red.....	doz.	2	0	3	0				
Broccoli.....	bundle	1	0	2	0				
Brus, Sprouts.....	½ sieve	2	0	3	0				
Cabbage.....	doz.	0	9	1	6				
Capicums.....	100	1	0	2	0				
Carrots.....	bunch	0	4	0	8				
Cauliflower.....	doz.	3	0	6	0				
Celery.....	bundle	1	0	2	0				
Cucumbers.....	each	0	6	1	0				
pickling.....	doz.	0	0	0	0				
Endive.....	score	1	0	2	0				
Fennel.....	bunch	0	3	0	0				
Garlic and Shallots, lb.		0	8	0	0				
Herbs.....	bunch	0	3	0	0				
Horseradish.....	bundle	6	4	0	0				
Leeks.....	bunch	0	3	to 0	0				
Lettuce.....	per score	1	0	2	0				
Mushrooms.....	pottle	1	6	2	6				
Mustd. & Cress, punnet		0	2	0	0				
Onions.....	per bushel	3	0	5	0				
pickling.....	quart	0	0	0	6				
Parsley.....	½ sieve	1	0	1	6				
Parsnips.....	doz.	1	0	2	0				
Peas.....	quart	0	0	0	0				
Potatoes.....	bushel	2	6	4	0				
Kidney.....	do.	3	0	4	0				
Radishes doz. bunches		0	6	1	0				
Rhubarb.....	bundle	0	0	0	0				
Savoy.....	doz.	0	9	1	6				
Sea-kale.....	basket	0	0	0	0				
Spinach.....	bushel	2	0	3	0				
Tomatoes.....	½ sieve	2	0	3	0				
Turnips.....	bunch	0	4	0	6				
Vegetable Marrows dz.		1	0	2	0				

#### TO CORRESPONDENTS.

PLANTS FOR CONSERVATORY PILLARS (*A Subscriber, T. H. S.*).—Twelve of the best plants and climbers for the pillars of a conservatory are *Jasminum gracile variegatum*, *Lapageria rosea*, *Plumbago capensis*, *Rhyncospermum jasminoides*, *Cestrum aurantiacum*, *Luculia gratissima*, *Habrothamnus Aubletii*, *H. elegans*, *Sollya linearis*, *Tacsonia Van Volxemi*, *Tecoma jasminoides*, *Bignonia grandiflora*, and none of these is more graceful than *Mimosa prostrata*.

POTS AND POTTING STRAWBERRIES FOR FORCING (*A Subscriber, Cosham, Hants*).—For runners of the present year we prefer pots 4½ inches in diameter, well drained, and filled with rich turfy loam beaten firm, and the runners are laid in these in July. We detach the runners from the parent plants in September, keeping off all runners prior to and after this, and place the pots, in double lines, on boards 1 foot from a south wall. These are for the early forcing to give fruit in March. Our second lot is prepared in the same manner, only we use six-inch pots because we employ larger kinds of Strawberries—namely, Keens' Seedling, Eclipse, &c. All after the first and second lots are fruited in six and seven-inch pots. We never pot or plant after September, and place them first in small pots for the successional crops, thence transferring them into fruiting pots as soon as the small pots are filled with roots. We presume your plants are as yet unpotted. The pots we should use would be 6 inches in diameter, and we take up with balls, and pot firmly. A bed of leaves about 18 inches high being made, a gentle heat would rise; in this bed we would plunge the pots about half their depth, which would excite a speedy root-action, and the materials becoming cold in ten days or a fortnight, a frame and lights might be placed over the plants to protect them from wet and severe weather. They will require to be started in January to fruit by the 1st of April. *Cinerarias* require blooming pots in proportion to their size. Small plants should have six-inch pots, and good plants those of 8 or 9 inches in diameter, up to 12-inch pots for very fine specimens.

LIFTING, PLANTING, AND PREPARING FOR VINES (*Idem*).—You may safely lift the Vines ten years old, only be careful not to injure the roots more than can be helped. March is the best time to plant young Vines. Your house will accommodate seven Vines, the two end ones should be planted 18 inches from the ends, and may consist of two Black Hamburghs; the others may be one Muscat Hamburgh worked upon the Black Hamburgh stock, on which it is excellent for outside planting; if not worked, omit it and plant two Trentham Black, or one if a worked plant of the Muscat Hamburgh be planted, one Buckland Sweetwater, one Foster's White Seedling, and one White Frontinman. The border should be dug out 2 feet 6 inches deep, and the width of the house, the bottom sloping to the front, where there should be a drain to carry off the water. The bottom should be covered with 3 inches of lime riddings beaten quite firm, except over the drain, which is not to be concreted. On the concrete place 9 inches of rubble, as brickbats and rough stones, and on this lay a turf grass-side downwards. Upon this place 2 feet of the following compost well incorporated—viz., turn 4 inches thick from a good loamy soil, light rather than heavy, chopped with a spade but not much, and add to each cartload two bushels of boiled half-inch bones. If the soil is heavy, add to each cartload the same quantity of old mortar rubbish as of half-inch bones. Make the border now, and it will settle to 20 inches deep by March. Let the border be made during dry weather. Avoid manure and leaf mould, which become a soapy mass in a year or two. You can at any time enrich the border by top-dressings of manure. The Vines will grow sufficiently strong for a year or two without manure.



**DESFONTANIA SPINOSA NOT BLOOMING (E. D.).**—Your plant will never bloom so long as it grows so vigorously; and why prune it in autumn? Let it alone for one year, and it will bloom in the next, if kept in a light, airy, cool house and merely protected from frost. Be very careful to have the drainage free, and not to pot the plant so long as it is growing so vigorously. Water freely when growing, and at other times keep the soil just moist.

**SOLANUM CAPSICASTRUM BERRIES (Idem).**—Although, perhaps, not positively deleterious, we should yet be inclined to regard them with suspicion. Dr. Hogg, in his "Vegetable Kingdom," page 551, states—"The fruit of *S. pseudo-capsicum* has been supposed to be deleterious, but M. Dunal says they are not so, for a dog which swallowed thirty of them, cut in pieces, sustained no injury." This is a near ally of the *S. capsicastrum*, and whether the berries are poisonous or not, their taste is such as not to recommend their use. Be cautious.

**CELERY WITH SOLID STEM (Goddess).**—You do not say where and how your Celery has been treated, or when it was sown, whether in February, March, or April. You simply state "My Celery is large, sound, but solid-rooted half way up the stem." If it is the common Celery, and sown early, we should not be surprised to hear of its beginning to bolt, or run, by this time—that is, if it was sown in February, particularly after this hot ripening season, and the more so if there has been any lack of moisture at the roots. Celery sown in February, and properly treated, ought to be ready for use in August and September, and that sown after the middle or end of March ought to be ready to succeed the February sowing. From the March sowing we prick and plant out finally at several times, making our final planting about the end of August or first week in September, and we never have observed a plant bolt, or run to seed, before the following year. We have known it in some mild seasons begin to start in the February of the following year, towards the end of that month. The early earthing-up would not of itself cause the Celery to run to seed, but, of course, after the Celery was banked up finally for blanching no more water could be given to it, and it would be a long time before the rains could penetrate to the roots. We are much inclined to think from the words "my Celery is sound, solid-rooted half way up the stem," that it is the Celery or Turnip-rooted Celery that has been grown and treated like the common Celery. If so, we should not be surprised at the earthing-up early having some effect upon the plants, and causing the knobs or roots, which ought to be round or nearly so, to become elongated half way up. Celery may be treated like common Celery, as far as sowings are concerned, and nursing up the young plants for final transplanting; and for this final planting the soil cannot be too rich and good. Plenty of good decomposed manure should be well incorporated with the soil before planting out either. Celery is generally planted on the flat surface, or in very shallow drills from 2½ to 3 inches deep, and from 12 to 14 inches from drill to drill. The plants are lifted with care from their nursery-beds, the tap roots shortened, and all side shoots carefully rubbed off, and the plants are then inserted in the shallow drills at the same distance from plant to plant as the drills are from each other. Water copiously after planting, particularly in dry weather, and pay attention to hoeing, rubbing off any side shoots occasionally. The Turnip-like knobs are taken up on the approach of sharp frosty weather, and stored away in sand, or otherwise, like Carrots, and are used in stews, soups, salads, and in other ways. The leaf-miner, or Tephritis Onopordiæ, or Celery-fly, has been very numerous this hot season, and that the grubs do much harm to the plants, except to disfigure their appearance for a little time, the Celery being a strong grower and making plenty of leaves. The soft larvae are very easily destroyed by a pinch between the finger and thumb. Hundreds can be destroyed thus in a very little time.

**COMPOSITION FOR FELT-ROOFING (J. M. R.).**—We have had several hundreds of yards of felt-roofing, and found nothing answer so well as what your carpenter recommends—viz., coal tar and Norway pitch, a lump of the last equal to one-fourth of the former being put in the pan, and, when boiling hot, applied to the roof when it is quite dry. Immediately afterwards sprinkle it with sharp sand, which will prevent its running and take away its glossy appearance. Black varnish is also an excellent preparation, superior to paint for out-door wood-work, resisting wet longer and better. Coal tar and powdered chalk we tried, but it did not answer. The main point with a felt-roof is to make it waterproof at the commencement, and to keep it so by renewing the composition every second year. If wet ever penetrate, the felt rots directly, and the water comes through it as through a strainer.

**VARIOUS (A Subscriber).**—No book specifies prices, the other information is in the "Garden Manual," which for twenty stamps; "In-door Gardening," twenty stamps; and "Out-door Gardening," twenty stamps; can be had free by post from our office. Turfy peat if decayed, or the bottom of an old wood stack may be substituted for leaf mould. The Sensitive Plant (*Mimosa pudica*) is an annual.

**SHAKESPEARE'S FLOWERS (Mrs. W.).**—The Editors regret that they must not indulge in notes upon the well-known flowers of Shakespeare. They only can find space for communications elucidating the names now not clearly defined. Can Mrs. W. decide what flower Izaak Walton meant by "Culverkeys"? It certainly was not the Columbine.

**OMISSION.**—In our notice of Dr. Lindley last week we stated that the editorship of the "Gardener's Chronicle" had fallen on Dr. M. T. Masters. We have since been informed that Mr. Moore is associated with him, and that the paper is under the joint editorship of these gentlemen.

**MANGO (C. McC.).**—We have forwarded your note.

**AZALEA LEAVES BROWNED (A Constant Reader).**—The leaves sent do not show the slightest trace of mealy bug, and nothing beyond the effects attendant on keeping the plants in a warm badly ventilated structure after their growth has been made. They do not seem infested with any insect. The majority of the leaves, if at all like those sent, will fall, but the bloom-buds are sound and will flower well, though the trusses will be small.

**LAPSTONE AND DALMAHOY POTATOES (F. K.).**—Any Potato dealer could supply you with these varieties. As you wish to plant an acre, advertise for as many bushels as you require.

**SMALL HOTHOUSE (M. W.).**—If you give us the size of your house, and tell us the chief of your wants and wishes, we shall be glad to advise; at present the matter is too indeterminate. What is the object in filling the pit partly with lime?

**TROPICAL FRUITS (T. Easterson).**—The Mangosteen (the *Garcinia man-gostana*), is a very fine fruit, something like an Orange in size, and after passing the hard rind, divided something like an Orange, with seeds in the centre, and the pulp of a delicious flavour. This is, however, not the fruit alluded to at page 340, under the name of the Mango (*Mangifera indica*), which bears its bunches of small flowers on the points of the shoots, more resembles a flattened Plum with a thick rind, and has a most agreeable perfume and a rich pulp when ripe. The mode of successful cultivation, detailed at page 340, is most interesting, and, for success and the age of the plant, we believe it is quite unique. We have no doubt if you follow out "J. H.'s" system you will succeed, especially if you place your tub further from the back wall, so as to secure the benefit of the hot-water pipes, and to give you room to pack tan or other material round the tub, or large pot, in the growing season. We should have more faith of success if the trees, instead of being placed along the back wall, were trained some 15 inches below the glass over the pathway.

**PEACH TREES IN POTS (Pond-dhu).**—There has been a good deal written lately on Peach trees in pots. From your description we would be inclined to believe that you have not stopped them enough in summer; and from being plunged in the border of the orchard-house, most likely the extra vigour and large size of the trees are to be attributed to the roots running in the border beyond the pots. This vigour of growth, attended most likely by unripe wood, is the chief reason why you have not had more than two or three fruit to a tree. In similar circumstances we generally manage to allow too many to remain. It would have been better to have raised your trees, and root-pruned them a month ago, but better late than never. Take up the pots carefully now, and prune off most of the roots that have extended beyond the pots, replacing the pot again after putting some nice fresh rich soil below it and round it, to encourage the fresh fibres to run a little in it, then remove a good deal of the surface soil of the pot, as much as you can do without injuring the fibres, and replace with fresh loam, with a fourth of rotten dung or leaves, firming it well, and then give a good watering so that the buds may sustain no sudden check from cutting the most of the roots beyond the pot. During the winter the soil is to be kept dryish rather than wet, but not too dry, as when that is the case the buds are apt to be thrown off by a liberal watering in spring. Fibres will be forming in the top-dressing all the winter, and the shoots will come healthy and less vigorous in spring; and if stopped when they have made five leaves, and stopped again when they have made two or three, you will insure nice stubby well-ripened wood near home, the trouble with which will generally be sufficiently thinning the fruit that will show.

**FRUITS FOR AN ORCHARD-HOUSE TRELLIS (C. E. M.).**—The following will do for the trellis in your orchard-house:—Peaches: 1 Early York, 1 Early Victoria, 2 Noblesse, 1 Barrington, 1 Walburton Admirable; Nectarines: 1 Balgowan, 1 Elrune, 1 Hardwicke Seedling, 1 Violette Hative.

**VINERY TO BE A GREENHOUSE IN WINTER (Jardin).**—We have repeatedly stated that for more greenhouse treatment there is no necessity for turning out the Vines in winter after the fruit is cut, as if the temperature of the house is not raised by artificial heat above 45°, high enough for the generality of greenhouse plants, there will be no danger of starting the Vines before they do so pretty well of their own accord. We know many places where every vinery, Peach-house, or Fig-house, is a greenhouse in winter before it is desirable to start the fruit-houses in earnest. If, however, you are resolved to have what temperature you want in winter in the house, and yet keep the Vines at rest, your best plan would be to have in front, two walls, two sills, and two wall-plates, from 2½ to 3 feet apart. In this place plant the Vines, and when pruned bring them down and train them in winter. For this purpose you would require double front sashes, the inner ones to be removed in summer. In most cases one pair of sashes would do, as the front ones might be placed behind the Vines in winter, and the Vines be open to the weather then, with the exception of being protected from wet by the glass roof above them. With double sashes the Vines would be more secure, and many things, as salading, might be kept beneath them in winter. By this mode, too, enough of bent could be admitted from the house into the space between the sashes to break the Vines before placing them against the rafters. But for the expense of the double sashes, this plan is in every way the best, and these inner sashes, if deemed advisable, may be used for other purposes as soon as the Vines go up against the rafters. Many modes have been resorted to, by board shutters and otherwise, to make one set of front lights do, and still give the Vines a little protection, for it should not be forgotten, that Vines grown in a house are never afterwards so hardy as those grown out of doors. One of the simplest of these modes we have met with is the following:—The front sashes, with studs between them in the usual way, were hung to the front of the wall-plate, on the hook gate-hinge fashion, so that the sashes could be easily put on or taken off. The sashes were 3½ feet in length. Similar hook hinges were fastened on the inside of the wall-plates. Three feet from the front sill, inside of the house, a piece of wood, 1½ inch thick and 15 inches in depth or height, went all the length of the house. Into this space, and as near the ground as possible, the Vines were bundled. The front sashes then were moved and hung on the inside of the wall-plate, the lower end sloping inwards to the boards, and resting on it, and fixed to it by a single screw. The space between the sashes occupied by the studs, between the sill and wall-plate, still remained to be filled up. That was done by a three-quarter-inch piece of wood as long as and an inch wider than the opening, either slightly tacked on at top and bottom, or fixed at bottom to the board with a screw, so that, though a little tight, the board would move on the screw so as to admit what front air was deemed advisable. In severe weather a little fern or litter was wrapped among the Vines. For common greenhouse plants, as already stated, however, there is no necessity for moving the Vines.

**WATERING ENGINE (H. Vaughan).**—Any one of the horticultural implement makers who advertise in our columns could supply such an engine on wheels. Write and ask them to send you a priced catalogue.

**NAMES OF FRUIT (Frank).**—1, Beurre Diel; 2, St. Germain; 3, Black Worcester; 4, Beurre d'Arcberg; 5, Puisse Colmar; 6, Glou Morceau; (H. W. P.).—Vicar of Wingfield. (F. L.).—2, Nouveau Poiteau; 3, Beurre Diel; 5 and 7, Beurre Clairgean; 8, Beurre de Rance; 9, Ne Plus Meuris; 10, Beurre Bosc; 15, Doyenne d'Étoiles; 17, Marie Louise. The others are not ripe, we shall keep them and let you know the names by and by. (B. R.).—1, Beurre d'Arcberg; 2, Crasanne; 3, Old Colmar. (H. H.).—1, Van Mons Leon le Clerc; 2, Beurre d'Arcberg; 3, Marie Louise;



5, Beurré Bose; 6, Verulam; 7, Beurré de Rance; 9, Vieser of Winkfield; 10, Easter Benrre; 11, Cstille; 12, Winter Nelis. (*H. P.*).—The Apple you call Donegal Pippin is Broughton. (*G. Bungalow*).—2, Triomphe de Jodoigne; 3, Beurré Blanc des Capucins; 4, not known; 5, Cobham; 6, Nelson Codlin. (*Pom.*).—Pears: 1, Catillac; 2, Chaumontel; 4, Triomphe de Jodoigne. Apples: 1, Drap d'Or; 2, Manks Codlin; 3, Coe's Golden Drop; 6, Brookes'; 8, Nonpareil; 10, Ord's; 12, Cobham; 13, Surrey Flat-Cap; 16, Royal Russet; 19, Golden Russet; 20, Scarlet Russet; 21, Fesrn's;

22, Hollandbury; 23, Russet Nonpareil 24, Reinette de Canada. (*Z. A.*).—1, Winter Nelis; 5, Bellissime d'Hiver; 6, Beurre d'Arenberg; 9, Passe Colmar; 11, Beurre Diel; 12, Napoleon; 14, Lewis; 19, Figue de Naples; 20, Duo de Bordeaux; 21, Chaumontel.

NAMES OF PLANTS (*Alice*).—1, *Festuca myurus*; 2, *Poa maritima*? starved; 3, *Festuca uniglumis*. (*E. S.*).—*Statice Limoulum*. (*An Admirer of The Journal of Horticulture*).—*Cannabis sativa*.

### METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 11th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 5	30.161	30.121	43	34	48	48½	N.E.	.00	Foggy; clear; very fine at night.
Mon... 6	30.140	30.131	42	35	47½	48	N.E.	.00	Cloudy; fine; cloudy with cold wind.
Tues... 7	30.108	30.026	42	38	47½	48	N.E.	.06	Overcast and cold; fine but cold; rain at night.
Wed... 8	29.942	29.911	43	38	48	48	N.E.	.00	Foggy; cloudy; fine; overcast.
Thurs... 9	30.042	29.967	48	30	49	48	N.E.	.01	Fine; cloudy; clear and fine at night.
Fri... 10	30.246	30.158	49	22	49½	48½	N.	.00	Clear and very fine; clear; frosty,
Sat... 11	30.249	30.238	47	35	47	48	S.W.	.00	Fine; foggy; overcast at night.
Mean..	30.126	30.098	47.85	33.14	48.07	48.14	....	0.07	

### POULTRY, BEE, and HOUSEHOLD CHRONICLE.

#### LIGHT BRAHMAS AT CHILDOWN HALL, SURREY.

THERE is no change from the country so thoroughly and entirely a change as spending a few days in London. We country parsons need it at times. We are apt to get narrow, to move in too small an orbit, and to be unduly careful or troubled about village things and village people. London widens one's views, diverts one's thoughts, and completely shakes one out of oneself.

Thoroughly, then, do I enjoy a few days in the great metropolis; I get out of the danger of merely vegetating,—I live. "Better fifty years of Europe than a cycle of Cathay," sings Tennyson, and better to change the flow of thought to quicken the blood, by being in London for awhile, than to be always in our country homes, be they ever so pleasant. Still, art wearies in time, often in a short time, but nature never wearies for long. My eyes filled with London sights, my ears with London sounds, satisfied, just short of satiated, I turn back to the country.

A kind invitation lies before me to visit Mr. Pares at Childown, and inspect his Light Brahmas. I will go; more, I will record my experience; it will be but fair. I have seen and told of "Y. B. A. Z.'s" dark beauties, I will see and tell of Mr. Pares's light charmers.

Gliding off from Waterloo station, out south-westward, my eye catches sight of several pairs of fancy Pigeons on different houses, some caged in, mostly Tumblers, I think. I will not speak too certainly this time, remembering my mistake at Calne. Mistakes! who does not make them sometimes? This reminds me of my curate days. After one Sunday morning's service—I had been reading prayers—my rector, one of the best and most gentlemanly of men, but fidgety when the gout was coming on, said in the vestry, "Why, you made six mistakes in reading!" "Sorry," said I, "but I am not feeling well." In the afternoon it was my rector's turn to read. He began the morning Psalms, and read away to the end, the clerk reading his verses from the evening Psalms; the congregation was tittering. It was now my turn. I said in the vestry, "Rector, you read the wrong Psalms." "Ah! well," said he, "'tis a wonder we do not make more mistakes." And so it is.

Well, to return—on further until one catches sight of "Clermont's terraced heights and Esher's groves," as saith Thomson; and now the character of Surrey is coming out every few miles; I see here and there scrubby bits of heath. Strange it is, but yet I believe true, that close to London as is Surrey, yet, there is more waste land in it than in any other county. But, perhaps, this is well; if the parks of London are its lungs, surely additionally healthy for Londoners must be these large heathy spaces in a county so near as Surrey. There, on the heath, the air is uncontaminated, the same sharp clear air as in the days when London contained but its half million of inhabitants. Londoners, then, may thank God for the uncultivated wastes in Surrey. On, creeping on, very slowly, I come to Chertsey—no, only Weybridge. Further on to the right, flags and groups of people. Oh! I see, it is a ploughing match. The

sturdy arms are steady as iron, and the furrows straight as arrows. Well done, Surrey's sons, the best of all shares to hold is the ploughshare.

Chertsey at last; but in a drenching rain, which pens us all, and there are many, into the little station; a heavy, heavy shower. "Nature is paying her debts," says one near me. Never mind the delay, it cannot be helped. Let me watch the different characters around me, as revealed by this compelled imprisonment. There is a goodly number of English grumblers. "Grumble and grow fat, happy Englishmen," said once a lively son of France. Then there are the fidgets, poking their heads out into the rain ever and anon. Then there are those two young ladies in the waiting-room, who are quite pleased with the rain, for that waiting-room is to them, with that nice youth, quite "a flirting-corner." Oh, it is the old, old story. But grumblers, fidgets, flirts, you are not in my line. There sits that delicate-looking lady, I fear a case of recent illness, whom I had noticed huddling her cloak higher to her throat, and glancing timidly at the open windows of the carriage, and now sitting, evidently fearing a bad result from the rain. I will say a kind word to you. Ah! the rain is over, and there is my host that is to be. My curiosity regarding his personal appearance is at an end now, and his curiosity at mine, if he had any, is also over.

A drive through Chertsey—old quaint Chertsey, "a dead-alive place," as I was told in the railway-train. Yet to me there is a great degree of interest attached to all those little towns and villages to the west of London, and on the Thames. As to Chertsey, two names are connected with it in my mind. First, Cowley's, the poet; but who reads him now? I suppose no one. Artificial, yet learned, Cowley, your works cannot live, but your name will—"Stat nominis umbra." There is Cowley's house, part new, but one bit old: may that old bit never be taken down. But there is another and far greater name connected with Chertsey, that of Charles James Fox, for close by is St. Ann's Hill, that well-wooded eminence where the great statesman was wont to retire, and live a purer life than his London life. Rogers says of him—

"Not less happy, Fox, than thee!  
Thee, at St. Ann's, so soon of care beguiled,  
Playful, sincere, and artless as a child!  
Thee, who would'st watch a bird's nest on a spray  
Through the green leaves exploring, day by day;  
How oft from grove to grove, from seat to seat,  
With thee conversing in thy loved retreat,  
I saw the sun go down!"

Poor Fox! A great mind, an eloquent tongue, a heart full of noble aspirations, but the life ended all; as one said of him, "The statue is imposing, but the pedestal leans." On to Childown, rising higher and higher, until we arrive at

"A land of brown heath and shaggy wood."

Yes, actually within twenty-five miles of London here is a country like that lying at the feet of the Scotch highlands, such as I have seen in Kincardineshire. Heath, heather everywhere, with furze in patches; then rising above is the beautiful silver birch, most charming of highland trees; and here and there great belts of Scotch firs, with their brick red stems. The picture I beheld was unique. I was, alas! too late to see

the heather in bloom, but the trees were perfect. Wild scenery, indeed, exactly that described in Kingsley's "Winter Garden." No winter, as to foliage, reaches this place, for the firs are clad spring, summer, autumn, and winter too.

Apparently in the midst of a fir wood a space has been cleared, and on the south slope of hill the pretty modern mansion called Childown Hall, red brick cornered with stone, has been built; a hill behind and to the east keeps off the wind. Childown—well, all the chill is outside, for the reception I got was the reverse of a cold one. The much-needed lunch came first, then out to the poultry. First, those behind the house, where awaits, cornbasket in hand, master's man, to whom I am duly introduced. When he heard I was coming he had said, "I wish them chickens that the pointer pup killed last March had been here for 'Wiltshire Rector' to see." This I found was a sore subject, almost a heart-breaking one; the pointer pup, the wretch, had worked his way early in the night into the chicken-house, and there, hour after hour, he had mangled and mouthed away until thirty chickens were no more—the best of course, for he was a puppy of taste.

Well, a host of Light Brahmas are around me, some prize birds, others not. In the midst is the largest cock Mr. Pares has ever bred, and named by him "Samson," the hero of a hundred (show) fights. I watch these birds, I stoop down and bring my face level with theirs, for that is the best way to inspect poultry. I turn round, and within a wired enclosure, with roosting-houses made of furze (these looked in character, for the wild country was open to us as well as around us), I note some of the chickens of this year, not equal, I am told, to those the puppy killed. Chickens that meet with untimely ends, like kings who die in childhood, are always perfect. In another pen are Black Ducks and Brown Call Ducks, one very lame, quite a cripple and very spiteful, "*Mens curra in corpore curro*."

We walk on further, no fear of wetting one's feet, for the soil is sandy, "a hungry sand," said the gardener. We find another fowl-structure, half hidden among firs. One hen I pronounced superb, large, full-chested, beautiful to behold. Strange it seemed to find these choice cultivated birds in so wild a spot. On still further, "To the monastery," said Mr. Pares. I start! "As an English gentleman I wish to be thoroughly obliging, but as to visiting a monastery—no, please; I have scruples, I do not like monks, I am a clergyman of the Church of England, besides, I have a wife and family." "Oh! I only call it the monastery because cockerels alone live there."

On my way I admire two Bretonne cows, and would have petted a lad's pony, but he, the pony, scorned it, as doubtless the lad would also have done. Over fields, for some part of the district has been made into pasture land, I see many pullets wandering. "There are the monks," said Mr. Pares, and I see, perhaps, fifty cockerels, of large growth, walking out of a rustic house made of rough fir poles. The monks come to call, for monk-like they love eating, and master's man is a walking refectory, as they well know. Gently, no driving, please, let them come naturally over; drive them, and they stretch up their heads and put themselves out of shape. Never drive fowls, especially Cochins or Brahmas. "This is the best bird," say I, and he is named "Rector," out of compliment to somebody I know. We now bend our steps back towards home, see some more Brahmas, one "Goliath," Sampson's son; then three cocks separated in different compartments, one a Frenchman, and not popular with master's man, who is true English, not less so because he is, like his master, a poultry enthusiast.

"Why, what have you got there under wire at the side of the house? Oh! I see, Andalusians." "Yes, my man would call them for a long time 'Master's delusions.'" Neat-looking birds they are, the hens especially—slate-coloured, quaker-like matrons—a new variety of fowls for a change. And lo! in the next enclosure are some Silkies, funny little fellows, beautiful in their ugliness like Scotch terriers. Their shape shows eastern origin, resembling that of other eastern fowls, and, passing strange, their having silky hair for feathers, they can scarcely be said to moult. These are the pets of the lady of Childown, and right proud she is that they have begun a distinguished career by a recent "highly commended." The Silky makes a nice lady's pet, being tame, willing to live in small space, and its neat form is pleasing. However, I should not like to eat one of the "blue noses;" if obliged, I should close my eyes.

So I have seen all the fowls, and a goodly number they are. Next a practical word. I set aside at once all disputes about the origin of Brahmas. They are fowls which will stand their ground because of their utility, and that is the right basis; they are excellent winter layers and not bad eating. I would

say that the two kinds, Light and Dark, should never compete against each other, they should each have a separate class at shows; this would be fair to the breeders of both varieties. Then, too, the Light should be really light; no suspicion of a cross shown by a patchy plumage. Let Light be light, and Dark be dark. As to the Light, there seem to be three special difficulties in their breeding—to keep the comb right, to avoid patches on the back, and not to get a yellow tinge over the whole bird, which greatly spoils the pearly hue, but is apt to come on in old age. Brahmas are useful birds, and like Cochins tame, and attractive in many ways. Breed them large and to a feather if you can.

There remained a little time before we needed to go in-doors, and like many a day in late autumn, the weather had improved. I ascend a hill, walking through ranks of red fir stems. On the top I stand panting and admiring; I feed upon the view; I enter into their feelings, of whom it has been said—

"On a fair prospect some have looked  
And felt as I have heard them say,  
As if the moving time had been  
A thing as steadfast as the scene  
On which they gazed themselves away."

What a wild view! And again I exclaim, "And so near London!" To the extreme right lie Virginia Water and Windsor forest, but too far away to come much into view; then nearer is Chobham common, where our poor soldiers played at being in the tented field, soon in the Crimea to be exchanged for work in which was no play. Some slight remains of the camp still exist—viz., ruins of earthworks. Beyond the common lies the village of Chobham, where Bishop Wilson, of Calcutta, was, in his youth, curate to Richard Cecil. Then further still are the Frimley ridges. Before me, and to my left, in dim distance, stretches the whole line of the Hog's-back. On the nearer hills the outlines of buildings are to be traced—viz., "The Dramatic College," called by the poor the "Rheumatic College," and an orphan asylum, and others, while nearer is the wild-heath-clad valley, broken up by knolls. Nearer are Scotch firs with breaks through them, showing bits of the valley, while close to me is a small lake. I stray round in front of Childown; I wish I had been here when the heather was in bloom. I find a goat tethered, for no enclosures are here, and she might wander away for miles. Poor nanny! though from another country, she must surely feel at home here. But I must hasten in, for the evening chills are coming on, and the horizon is narrowing minute by minute, while the cheerful blaze, throwing its brightness upon wall and ceiling and window, invites us to walk in-doors. A loll on a couch, and a cup of tea—'tis five o'clock. Oh! that blessed cup of tea, the best invention, a lady's it was, this twenty years, for those who dine late, for late dining takes away that real enjoyment of tea which early diners have; warming, cheering, five-o'clock cup of tea! Shall I need to add more? A dinner followed, at which neither teeth nor tongue was idle, the former we employed in eating a Brahma, the latter in talking of their living merits. I am bidden to invert the silver cup at my right hand before it is filled with ale; I fear some conjuring trick, but on the bottom of the cup I only read of the triumphs of Brahmas.

I scarcely need say I thoroughly enjoyed my visit, not less because we had a drive the next morning, and another in the afternoon to Virginia Water station. So the wild picturesque country remains fixed on my memory. I am asked, at parting, to make another visit. I hope I may be able some day or other.—WILTSHIRE RECTOR.

## GAME JUDGING.

YOUR correspondent "OLD COCHIN" seeks to enlarge the controversy on Game judging by introducing matters entirely foreign to the subject, and, while deprecating personalities, affords strong proof of his disinterestedness by a violent attack on the Birmingham Committee, and "a single individual" in particular. "OLD COCHIN" appears to be completely *au fait* on many matters connected with Birmingham, but being beyond the point at issue—"Game judging," it is not the intention of the writer to notice these at present; however, as "OLD COCHIN" takes exception to the statement that the dissatisfaction at the Game decisions last year was confined to one or two disappointed exhibitors, a few remarks are necessary. Your readers are aware that previously to the last two years, a certain peculiar notoriety obtained at Birmingham in the Game department, to which your correspondents "OLD COCHIN" and "AN EXHIBITOR" seem to wish to return, relative to which,



and the dictation on the subject, an explanation from the latter would be peculiarly interesting just now.

It is generally understood that two organs of the press indicate and reflect public opinion on poultry matters, and for confirmation or otherwise of the alleged mistake, a reference to the reports at the time will perhaps assist in elucidating the point better than all that may be written *pro* and *con*.; and for that purpose, if your readers will refer to your columns, New Series No. 193, page 459, they will fail to discover any mention of such dissatisfaction, or indeed any fault at all. For the report of your contemporary on the Game classes, it is well known the services of one of the Game Judges of 1862 were engaged, and what was the result? Had the Game Judges been at fault, would a solitary complaint have been made? Perhaps either "OLD COCHIN" or "AN EXHIBITOR" can explain this, and, failing that, the alleged dissatisfaction may be consigned to the limits previously stated.—JUSTITIA.

### MANCHESTER POULTRY SHOW.

SEVERAL exhibitors, without taking the trouble of looking minutely into things, or even of comparing them, having spoken disapprovingly of this Show, I will, through the medium of your columns, endeavour to prove the fallacy of their arguments not only to them, but also to those who may have been biased by their unthinking talk.

I have lately heard one or two remonstrate against the arrangements which Messrs. Jennison, of Belle Vue, have made with regard to their Poultry Show at Manchester, and, at the same time, regret their not having taken the Birmingham principle of entries as a criterion for their own. The Manchester system this year is just the same as the Birmingham, only not so expensive to large and, more especially, to small exhibitors of one or two pens.

At Birmingham a subscription of £1 must be paid for every four pens, and 2s. 6d. for each of the pens exhibited, thus making £1 10s. for the four entries, or 7s. 6d. per pen. Let us now investigate the Manchester system:—An exhibitor can enter in one form (which really constitutes the subscription mentioned for the Birmingham Show) five pens, for which he has to disburse £1 15s., thus each pen costs him to enter 7s. or 6d. less than at Birmingham; and an exhibitor of one pen at Birmingham has to pay £1 2s. 6d. for the privilege of showing, whereas at Manchester the same person can show the same pen for 15s.

Manchester is straining every nerve to make its Show the Show of Poultry and Pigeons, and there is very little doubt that it will be so, considering that the promoters are men of integrity, the Judges persons of undeniable character and honour, and that the Music Hall, where it is held, can be thoroughly warmed by steam-pipes which are laid down throughout the building.—JUSTITIA.

### SHEFFIELD COLUMBARIAN SOCIETY'S SHOW.

(From a Correspondent.)

THIS was held on November 6th. The pens for old and young birds numbered about 140, young birds only competing for prizes. The birds, competitive and exhibited, comprised every variety, and some were unequalled; among these, a Blue cock Pouter, owned and shown by Mr. Edward Brown, and a pair of Black and Dun Carriers, bred and exhibited by Mr. Thomas Colley, were declared premiers of the county, having won three silver cups this year.

The following is a list of the Judge's awards:—

CARRIERS.—First and Second, — Cottee. Third, J. Deacen.  
POWTERS.—First and Second, W. Ashforth. Third, H. Brown.  
FANTAILS.—First and Second, — Hawkins. Third, — Smith.  
TURBITS.—First and Second, — Wilkinson. Third, — Benison.  
OWLS.—First and Second, — Ashford. Third, — Benison.  
TUMBLERS (Short-faced).—First and Second, — Smith. Third, H. Brown.

ANY OTHER VARIETY.—First and Second, E. Brown (Barbs).  
SPECIAL PRIZE (Pouter Hen).—W. Ashforth.

NANTWICH SILVER GAME CUP.—It will be seen, on reference to our advertising columns, that the Committee of the Nantwich Poultry Show purpose next year giving a silver cup for the best pen of Game fowl of any variety, the competition in this case being open to the whole kingdom. Nantwich being so proverbial for the excellence of its Game fowls, no doubt the local exhibitors will strive to the utmost to prevent this coveted

laurel being wrested from their grasp, and from this cause, most probably, the competition will be a very severe one, and embrace entries from most breeders of Game fowls.

### MIDDLETON POULTRY SHOW.

IN the Journal of October 31st I find an effusion from the prolific pen of a Mr. Massey, of Fulford, York, in which he has taken the trouble to occupy himself, from about the 21st of September, with sundry small grievances, arising out of the business of our show at that date.

First of all he complains about a want of attention to his Pigeons (quite a new disease), and that he had occasion to bribe some unknown individual before their wants could be attended to, ignoring the fact, known to all exhibitors, that his appeal ought to have been made to the Steward of the department. From inquiries which I have made, I feel most positively certain that not only all the Pigeons, but the large number of poultry as well, were during the Show as well cared for, or perhaps better, than they could have been at home.

It is not worth while to notice the complaint of his call at my office, as he must be well aware that in the midst of multifarious business, circumstances occasionally called me to the various departments; I can avow, however, that I was not absent for any length of time all put together. In the payment of the prizes, I find that in copying out, the second prize, by mistake, was taken for Carrier Pigeons instead of first, so that at the date of his note he was entitled to 7s. 6d., but he only needed to have pointed this out and it would have received my best attention. The 1s. 6d., I believe, is fully stated on the note sent with his prize money to be for the carriage of his birds, and as the enclosed note will show, was quite in accordance with his own instructions. Of course he was also charged commission on the sale of his poultry, and the expense of remitting, which together amounted to 1s. 4d.

Lastly, about the mastiff. I can safely say that as soon as his telegram arrived it was dispatched to the Steward of the department and the dog forwarded immediately, after being well fed and cared for in every possible manner. But, may I ask, why should the trouble and expense of Mr. Massey's dog be thrown upon our Committee, when that gentleman was present at the Show, and ought certainly to have taken charge of and removed him at the close? Mr. Massey is not quite motiveless, it appears, and perhaps would not be able to lead the way to the summit of perfection better or sooner than—THOS. MILLS, Secretary, Middleton Agricultural Society.

P.S.—I have omitted to state the reason why the dog was not forwarded earlier, he had lost his number, and no one could tell to whom he belonged until the telegram arrived.

In your Journal of the 31st ult. there is a complaint of the want of management at the Middleton Poultry Show. I was very much vexed at the time with the state in which my birds were returned, as they exhibited great want of care, as well as want of food; I therefore feel called upon to confirm Mr. Massey's statements in those respects, and hope that there will not be ground for complaint next year.—CHARLES SIDGWICK, Riddlesden Hall, Keighley.

### WARNING.

A FEW weeks ago I sent to the Worcester Show some Ducks, which were commended, and a week had not elapsed before I received a letter, edged with black, from a gentleman (as I thought), and dated from Stanton Court, Herefordshire, inquiring what I would take for a drake of the kind he had seen at the Show. Upon this I sent him my terms, to which he agreed; but being a party of some standing, as I then supposed, I did not think it requisite to request the money before sending off the bird, but from that time to this I have heard nothing more from the person, although I have written to him several times requesting payment. A warning in your valuable paper to all amateurs will greatly oblige—A SUBSCRIBER.

ABERDEEN POULTRY, PIGEON, AND CANARY SHOW.—This will inaugurate the new year. The prizes are very liberal; and there are sweepstakes, as well as extra cups and medals. One

good feature is that the day is specified (January 20th), on or before which all prizes will be paid. The Poultry Club is to appoint the Judge of poultry.

### SIR JOHN SAUNDERS SEBRIGHT.

WE have been applied to for a portrait of this first cultivator of the Bantam, and as we have a rather scarce portrait of the worthy Baronet, we have had it photographed, and copies may be had at our office. A few particulars of his not eventful biography will be a suitable accompaniment.

He was the eldest son of Lieut.-General Sir John Sebright, M.P. for Bath, and his mother was a daughter of Edward Knight, Esq., of Wolverley, in Worcestershire. He was born in Sackville Street, St. James's, Westminster, on the 23rd of May, 1767. He married, in 1793, a daughter of Richard Croft, Esq., of Harley, in Norfolk, and their offspring were one son and eight daughters. He succeeded to the baronetcy on the death of his father in 1794. In 1797 he was High Sheriff of Hertfordshire, which county he represented in eight parliaments, from 1807 to 1835, and he was also a Deputy Lieutenant of the same county. He died at Acton Green, April 15th, 1846, and was buried at Flamstead, in Hertfordshire.

The Sebrights are an ancient family in England, and were at Sebright Hall, in Essex, when the earliest Norman Kings reigned over us. Even then they were specially associated with country occupations and the hunting field, holding their estate by the service of "keeping the King's palfrey, or saddle horse, forty days at the King's charge, whenever he came into those parts."

The late Baronet did not depart from the traditions of his ancestors. It was about the year 1800 that the late Sir John Sebright first began to fashion the Sebright Bantam. The cross was between some common Bantam and the Polish fowl. These were bred in and in until the required marking and size were secured. Sir John then accidentally found a short-tailed Bantam cock in the country when he was travelling. This short-tailed bird he in-bred with his newly-manufactured Bantams, thereby giving their progeny the present form of the short tail.

In the "Poultry Chronicle" it is stated that Sir John obtained a buff-coloured Bantam hen at Norwich: she was very small indeed, with clear slate-coloured legs. On the same journey he purchased a cockerel rather inclined to red in colour, destitute of sickle feathers, with a hen-like hackle; and also, at Watford, a small hen resembling a Golden Hamburg. He afterwards had a white cockerel from the Zoological Gardens, by which he made his Silvers. This description of the origin refers back before the laced marking was achieved. They were then known as Pheasant Bantams.

Sir John also established a club for the fostering and improvement of his pets. It is thus mentioned in the "Poultry Chronicle" of 1855:—"The Sebright Bantam Club was formed some forty years ago by the late Sir John S. Sebright and several other fanciers, who endeavoured, if possible, to obtain the beautiful plumage of the Polish fowl on as small specimens as could be. They (the late Sir John, the late Mr. Stevens, the late Mr. Hollingsworth, and Mr. Garle, who still survives), began their labours by selecting the best kinds for their purpose of the Polish, and, by judiciously crossing them with Bantams, gradually obtained their end. They had to work out the top-knots, get rid of the hackles and long tail feathers, and reduce the size, retaining as much as possible the truly impertinent carriage of the Bantam. This has been most successfully accomplished, but not without the occasional re-crossing with the Black Bantam, for the constant breeding in and in has often brought the birds to a stand-still. The Club thus formed met annually, on the second Tuesday in February, in Brick Lane, but has of late years been transferred to the Gray's Inn Coffee-house, Holborn, when it has always been the custom to admit strangers, on application, after the award of the Judges. The Club is essentially private, and all members must be proposed and seconded by a member, and afterwards balloted for. The annual subscription for the Golden is two guineas, and the same for the Silvers, which forms the amount of prizes. All the birds must be the *bonâ fide* property of the exhibitor, bred by him, and under a year old. The cocks are allowed 22 ozs., the hens 18 ozs. The cocks must have no long hackles, no saddle feathers, no streamers in the tail; they must have rose combs, short backs, heads and tails approximating; their ground colour, whether Gold or Silver, must be clear, and every feather delicately laced (never spotted) with pure black. The

tail feathers should form no exception in their lacing (but this will be very seldom seen), and the bars on the wings should be black and distinct. The same rule applies to the hens."

### ATTEMPTED SWINDLING.

SOME time since, being in want of a few pairs of fancy Pigeons, I advertised for them, and the second day after the appearance of the advertisement I received a letter from a party who also signed himself a "Surgeon," offering me some birds, which he said had taken first prizes at the Crystal Palace and other principal shows, at marvellously low prices, and offering me a further reduction of 50 per cent. subject to my taking half-a-dozen pairs. These very liberal terms aroused my suspicions, and naturally prevented me from sending cash in advance, but I wrote to him and asked him to send me some that I mentioned, on approval, at the same time referring him to a gentleman who lived within a few hundred yards of the address given. From that day to this I have never heard a word from this most honourable "Surgeon," but from inquiries which I caused to be instituted I find that the address given is not a surgeon's residence, but a post office. I have not a shadow of a doubt but that this is the same person who, "if he could," would have imposed upon "CAXTUS" as well as myself.—J. J. H. S.

### PIGEON MANAGEMENT.

I THINK it would be interesting to your readers to hear from fanciers of their successes and failures in breeding, and their mode of treatment. This has, I believe, been generally considered a bad breeding season, and comparatively few of our great breeders have succeeded in rearing many birds. This I hear from all quarters, but have heard no satisfactory reason assigned, and I shall be glad to hear what may be the probable cause. At this time my stock of Pigeons (mostly Carriers) are in perfect health and condition. I am feeding them chiefly on old tick beans, and occasionally give them Indian corn and small sound peas by way of a change. Of course they are kept scrupulously clean, and have a constant supply of gravel, sand, and fresh water.

On cold mornings I give them a little hempseed, but I am not certain that this is a proper diet for Carriers, and that rape seed is not preferable. Will Mr. Brent, or any of our Pigeon-fancying friends, give an opinion, and of the effects of the different kinds of corn on the birds? So far as my experience teaches, sudden change of food is injurious, and Indian corn alone I should not recommend.

With regard to ventilation, I am giving a good deal of fresh air in the day, and closing the loft at night. I should like to know whether much fresh air is thought desirable at this time of year, and whether a pretty strong current through the loft would be beneficial or otherwise.—WILLIAM MASSEY.

[I think that a little hempseed, if given sparingly, will not injure Mr. Massey's Carriers, and I fear that they will not be able readily to pick up rapeseed on account of their wattle obstructing the direct line of sight. Indian corn and peas I consider good for flying Pigeons while in training; but for Pigeons confined I fear much Indian corn is too fattening, and peas cause them to lay soft-shelled eggs. Wheat is good for feeding young ones on, but causes the old ones to be soft in condition and feather. Sound old tares, small old beans, and a little good barley I think the best food for fancy Pigeons. Fresh air is good for the Pigeons, but a strong draught at this season is certainly not desirable.—B. P. BRENT.]

### SECOND AND THIRD SWARMS.

I BEGAN bee-keeping this year with a swarm, second or third from the old stock, in the first week of June. The hive is called, I think, "Neighbour's Improved Cottage." The bees have worked apparently very industriously all along; but they have not filled the hive, and of course have given no honey in the glasses above. The bees began to build on one side, and gradually approached the other; but a large share, I should think one-fourth of the whole, has not yet been filled up. They have been fed with syrup, equal to about 6 lbs. of white sugar, up to the present time. The drones, if any, have not to my knowledge been expelled, although I have watched the hive very closely, unless this event occurred about three weeks since when a few dead bees were found lying in front of the hive; there were, perhaps—say twenty of them. There seem to be, however, plenty of bees, and they are very industrious.



How is it the hive has not been filled? Why were the drones killed off so late, and then so few? Should they still be fed? and as I cannot weigh the hive, how shall I know when they are sufficiently fed? I suppose my beginning with a late swarm was a disadvantage; but will this still be a disadvantage next spring? Will this fact interfere with their early and vigorous swarming in the next spring?—B.

[A second or third swarm is rarely strong enough to fill its hive with combs the first season. The reason of this is, that after-swarms are later than first swarms, are seldom so numerous, and being led by a virgin queen, breeding is more or less delayed.

Few drones might have accompanied the swarms in the first place, and these would be destroyed immediately upon the queen becoming fertile, whilst none would be bred by a young queen at the head of a weak colony.

If you cannot actually weigh the hive, you can surely lift it in your hands, either with or without the floor-board, and thus form some idea of its condition.

The hive being stocked in the first place with a late swarm, and being, therefore, only partially filled with combs, must perforce be at a disadvantage next spring, as compared with a strong colony in a well-filled hive, and is not so likely to swarm early.]

### WOOD FOR HIVES.

ISRAEL TODD will find well-seasoned yellow pine much better than red deal as a material for hives. The latter is too close in its texture, and, consequently, too good a conductor of heat for the purpose, whilst bees will frequently refuse to remain in hives made of red deal, owing to the strong smell of the turpentine it contains.—A DEVONSHIRE BEE-KEEPER.

[We used well-seasoned red deal for several years, and never found the bees inconvenienced.—Eps.]

### STRENGTHENING A LIGURIAN CAST.

WHAT would you advise me to do with a cast of Ligurian bees, which I had much trouble with in getting them into a Woodbury hive? I sent them to the moors, but they came home very little better of the journey; indeed, the heather has been quite a failure this season. I have been feeding them, and this morning took off the cover to see what state they were in, and found that they were very weak as to combs, &c. They occupied the middle of the front of the hive; the two outside bars had nothing on them, and the others had combs only about half way across, or hardly that. Now, I do not want to join them to the others, which are very strong, but rather to feed them, and save them through the winter, if possible. I could put a frame or two in at the sides with empty combs, or nearly so, and feed them till they had filled them up, and had thus provided a good stock. Would it do to keep them in a greenhouse during the winter, taking care to supply them with plenty of food?—G. W.

[As stocks are found to winter better with the two outer combs removed, you will do well to abstract two frames of worker comb from your strong stock, brushing off every bee, and leaving a vacancy on each side. Insert these combs in the centre of the hive containing the weak colony, removing the two small side combs, and feed liberally at once until it is sufficiently heavy to stand the winter.

A greenhouse might, probably, be a good shelter for a weak stock, but the bees should not be confined, and care must be taken that there be no draught of air rushing in at the entrance. They should not be fed in winter, and if the present position of the hive be a little distance from the greenhouse, the removal may do far more harm than good, owing to the loss of bees returning to their old stance.]

### OUR LETTER BOX.

FEEDING BRAHMA POOTRAS FOR EXHIBITING (A. O. W.).—Ground oats form the best food for any kind of poultry. They may be mixed with water or milk. We do not advise you to shut up your Brahma cock unless you have a good-sized pen in which to put him, and if in company with the hens to be shown with him, so much the better. Give him twice a-day, morning and evening, as much of the slaked ground food as he will eat. In the midday feed him on kitchen scraps, the crumbs of the breakfast and dinner-tables, and if soaked in the beer-bottoms it is no injury to him, quite the reverse. Willow legs are admissible in Black Game. You can have "The Pigeon-Book" from our office, free by post for twenty stamps.

ROUP (J. C. M.).—Poultry have no disease called "croup." Cleanliness and good feeding prevent roup, which is what you mean. Bailly's pills, castor oil, camphor, and bread and ale, cure it in certain stages. It does not occasion great mortality, except when the fowls are debilitated from under-feeding or other causes. Among strong healthy fowls it is not infectious, nevertheless, some will always take it, being predisposed to it. It is not nearly as fatal as it was years ago.

INCUBATOR (E. M.).—We will shortly give a drawing or ample description of an incubator. We fancy your heat is not equally distributed.

SULTAN FOWLS (F. E.).—It may be that the crest of the Sultan cock was cut off before he began his voyage. Many people when sending known birds to connoisseurs divest them of every unnecessary feather, especially a crest or top-knot, as it is liable to get wet, and to incommode, if not injure, the fowl. Nothing will accelerate the growth, nor is it necessary. If, however, the feathers have been cut off, and the quills or stumps remain in the skin, they must be removed before others will grow. All birds will eat bread, our ordinary Guinea Fowls eat meal freely. On the continent they feed much with Indian corn and buckwheat. It is difficult to distinguish between the sexes, but the cock is supposed to have a larger horn and longer wattles than the hen. If by a greenish colour in the Spanish fowls you mean a green metallic lustre on the black plumage, it is not only correct but desirable. The plumage must be black. There is more latitude in Crève Cœur. They should be quite black, but many of them have some coloured feathers. These last are not of necessity impure, but the mixture is not desirable.

WEIGHT OF COCHIN-CHINA COCKEREL.—BILLS OF BUENOS AYREAN DUCKS (Yorkshire Exhibitor).—Eleven and a half pounds is a capital weight for a twenty-five-weeks-old Cochin cockerel; it is heavier than common. The bill of a Buenos Ayrean drake should be like a green yellow, washed with soot and water.

GOOSEBERRY TREES AND POULTRY (A. Z.).—We never heard that the trees are injurious to poultry, and do not think that they are.

FOWL-KILLING DOG (W. L.).—Give the owner a written notice that his dog does kill fowls; after which, if he allows his dog to be loose and unmuzzled off his own premises, he may be sued for any damage the dog may do to fowls, whether yours or belonging to any one else.

DISEASE IN PIGEONS.—Can any correspondent give me a receipt for the disease in Pigeons, which I believe is called "Going light?" The Pigeons become thin, lose their appetite, waste away, and die. A great many of my young ones have thus died this year at various ages, but no old ones have as yet been attacked. Generally there is no other appearance of illness, yet in a few it is accompanied with lameness in leg or wing. In a few there is a curdly appearance about the mouth, as in a feverish person, but it is not common; others have diarrhoea, some die soon, others linger for weeks. I have cured some with calomel and cod-liver oil, but many die, and I should be obliged if any one can tell me of a perfect cure.—B. P. BRENT.

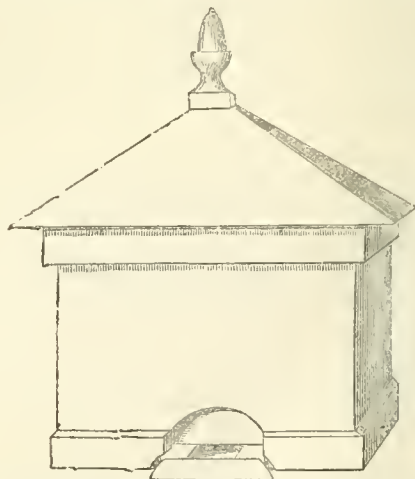
JACOBI'S EYES (An Old Gardener).—Baldhead Jacobins frequently throw young ones with dark or bull's eyes, which is a great blemish. All pearl eyes are dark at first, but they assume their right colour before the young birds are ready to pair.—B. P. BRENT.

ANATOMY OF BIRDS (Delta).—Dr. Carpenter's "Animal Physiology" will suit you. He gives a popular description of the structure of all the parts of birds, and abundance of illustrations.

DISTINGUISHING THE SEX IN CANARIES (F. W. E.).—The cock Canary is bolder-looking, stands more upright, and sings louder. Though hens sometimes sing their voice is less powerful, and their song shorter and more disconnected. You will find the English Finches particularised in the "Canary and British Finches," published at this office. You can have it post free for nineteen stamps. I do not know of any better book on foreign cage than Bechstein's.—E. P. BRENT.

WOODBURY STRAW HIVES (Fred. D. Mort).—We do not consider ventilation during winter necessary, or even beneficial, in the case of straw hives of any description.

COVER FOR EXPOSED HIVES (G. H. B.).—We use roofs and outside cases of this description. Both are made of half-inch wood well put



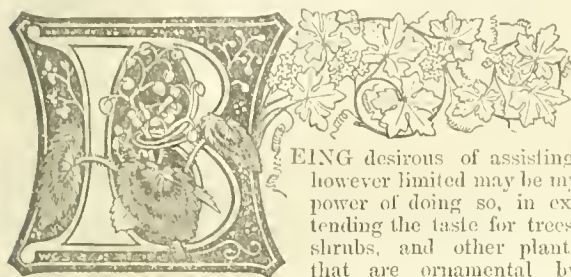
together and painted a light stone colour. The roof is moveable and fits loosely on the square case, which latter rests on the floor-board, and is retained in its place by the two-inch plinth fitting outside.

## WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 21—27, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		Days.	m.	h.	m.	h.	m.	h.	m.			
21	TU	CROWN PRINCESS OF PRUSSIA BORN.	49.4	31.5	42.9	23	31	af 7	0	4	50	9	45	6	5	13	53
22	W	Sun's declination 20° 13' S. [1840.	49.0	31.1	41.6	21	32	7	0	4	35	10	45	7	4	13	57
23	TH	Gray Wagtail arrives.	47.2	31.1	40.3	16	34	7	59	3	13	11	49	8	5	13	59
24	F	Sweet-scented Coltsfoot flowers.	47.3	32.1	39.9	12	35	7	58	3	13	11	59	9	6	14	3
25	S	Larch leafless.	46.3	33.5	39.9	19	37	7	57	3	after.	11	11	7	12	45	
26	SUN	21 SUNDAY AFTER TRINITY.	47.2	33.2	40.2	19	39	7	56	3	44	0	morn.	)	12	26	
27	M	Elm leafless.	47.0	34.1	40.7	17	40	7	55	3	11	1	25	0	9	12	6

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 47.6 ; and its night temperature 34.1°. The greatest heat was 62°, on the 25th, 1863 ; and the lowest cold, 9°, on the 23rd, 1858. The greatest fall of rain was 0.88 inch.

## A PLEA FOR TREES, SHRUBS, AND SOME OTHER PLANTS IN FLOWER GARDENS.



BEING desirous of assisting, however limited may be my power of doing so, in extending the taste for trees, shrubs, and other plants that are ornamental by their foliage, as tending to

remove the great defects of modern flower gardens, I beg to tender a few remarks quite as much to solicit as to furnish information.

One of the great defects of modern gardens is their uninteresting appearance in winter, spring, and early summer, and most cottage gardens are far more gay at those periods than places of greater pretensions ; yet there is no deficiency of shrubs and other plants that are interesting and even pretty, to say nothing of the many recent and valuable introductions, several of which are of a character to afford gratification all the year, and some flower at an early period of the season. There is no lack of subjects that only need pressing into the service to put an end to the absurd system of having nothing of interest in the garden except in the height of summer. Another great evil is the generally monotonous character of gardens as at present arranged and planted. There is a monotony of form and outline, and a general sameness in all the details, affording nothing but a first impression. The plants employed are seen at a glance, and give an instant impression, and people seem pleased with them they know not why, and all we can learn from them is, that certain gardens are grand—grand beyond the powers of pen or pencil to pourtray. They comprehend many forms and many colours so well arranged as to be extremely pleasing ; but, examined in detail, they will be found to be made up of the same forms and colours repeated. The forms are simply straight or curved lines little different from one another, and the colours are of the brightest and most dazzling description ; these are wearisome to the eye, and what there is to learn is soon obtained in consequence of the small amount of variety that there exists in principle and material. There is an overpowering amount of colour, the gradations between warm, bright, and low tones are not accounted for ; either the colours are too bright, lack warmth, or require toning down, and no one seems to be able to fix any laws by which the arrangement may be governed, or if any do promulgate a set of rules as has been done by Chevreul and others, they as often are beside as hit the mark. In short, our gardens lack variety and intricacy both as to form, material, and arrangement.

Flower gardens being rendered brilliant by employing flowering plants in masses, another striking defect presents

itself, and that is the want of repose or relief. The various shades of green constitute in nature the great relief to the colours of flowers. It is the blades of the Wheat that make red Poppies so telling, the green of the Barley that gives Charlock its peculiar richness in yellow, the green of the pasture that makes the Milfoil look so white ; and the pink Centaury receives no small aid from the herbage around. In nature there is no such thing as positive colour, it is toned down by the foliage of the plant producing it, and it is not possible to find a more fitting contrast for any flower than its own foliage. The relief of masses of bright colour in lawns is found in the grass, and much more warmth of colour may be given there than can be done when the masses are in Box or gravel.

It is only now necessary to point out the essential difference that exists between geometrical and irregular flower gardens.

Geometrical gardens are regular and symmetrical, the paths are regularly curved or regularly straight, and the eye is only impressed by objects slightly varied ; for, whether the lines are straight or curved, symmetry requires that the objects in one side or part should be repeated and correspond with those on the other. The result of this is, when all the principal parts are seen, which are never numerous, or if they are, mere repetitions, the spectator has seen everything that such gardens have to offer. They are usually planted either in varied masses of colours, separated from each other by unplanted intervals, which may be grass or paths of gravel, or they may be planted homogeneously when it is the intention to give an effect of individuality, the corresponding parts of which are identical. This style is the most simple, and affords on the most extensive scale scope for a few species of plants only, and is, as at present adopted, but a slight modification of the Dutch style, though the more polished gardens are after the French style. The extremely monotonous aspect of such gardens is the theme of universal comment, and their bareness in spring and early summer is the obstacle to their further extension. A slight variation of material pleases those who are fond of the gay and splendid, but to a lover of those plants which are possessed of charms other than forming carpets of bloom, gardens of this kind are of little interest, for there is nothing to study except what may be seen any day in a draper's shop-window. I do not wish to imply that I would seek to do away with the present mode of planting flowers in masses, nor lead any one to conclude that gardens in which that system is adopted are entirely devoid of interest ; but I ask, Are they not deficient in interest for the greater part of the year, and monotonous at their best ? and when the principal points of their composition are seen, what is there further to engage curiosity and keep awake the interest which is expected to be found in gardens ? Simply nothing, the garden is a fixed unchangeable thing, and such it remains year after year, or is but slightly varied.

Now, to tone down the bright colours plants remarkable for their foliage have been introduced with good effect into such gardens, and particularly plants of which the leaves



are frosted, bronzy, or variegated with white or yellow, but with green entering largely into their composition. I may be told that blending these with other plants gives a tone which green foliage would not, and that by planting these flowers in proximity whose colours enhance each other we avoid, at least, the disagreeable effects produced by masses whose hues are mutually injurious; but plant as you will, the colours will never have so good an effect as when relieved by foliage distinct alike in form and colour—for example, a ribbon-border backed with evergreens, or beds placed in the intervals between beds of shrubs not in flower. The effect of beds should be such that the colours will be as agreeable to the eye of the spectator as music is to a musician whose ear is struck by a succession of harmonious tones. Verdure, in short, is the best and only relief to gaudy flowers, and green being a sober colour, intermediate between the deeper and brighter tints, consequently affords a foil to all. But then there are various tints of green in combination with yellow or white. Yellow accords well with blue, and with reds inclining to blue; white accords favourably with blue and orange; perfectly with red or rose, and is the only hue that possesses the advantage of heightening light tones of any colour, and separating those mutually injurious. Green, when deep, contrasts well with any colour, and it alone affords relief or repose. Enough, then, has been said to show that the want of repose arises from a deficient amount of green or verdure, and this I think must be apparent to all who take any interest in gardening.

It may be contended that there is sufficient green in the composition of geometrical gardens when the outlines are formed of Box. This is simply a mistake, as is exemplified by placing a primary colour in the centre of a bed edged with Box, and surrounding that colour with a band of white; the Box, it will be found, will produce but a feeble impression. The green of leaves not only serves as a ground without destroying the contrast, as might be supposed, of the flowers, but heightens their tone; but the green of Box, especially when the growths are young and of a yellow tint would irretrievably ruin the contrast of the colours were it not that green edgings produce a very feeble impression. Again, blue flowers as, for instance, *Lobelia speciosa*, accord badly with green, and are never pleasing next grass, but the reverse is the case when placed near a Box-edging; whilst a purple, as *Purple King Verbena*, accords well with grass, and so do blue flowers containing white, as *Lobelia Paxtoniana*. The green of Box then is no relief; it adds to rather than is destructive of monotony. Ornamental-foliaged plants, especially those with frosted or variegated leaves, afford slight repose, but are as frequently employed to heighten the tones of any colour, to separate discordant colours, and to give a regular gradation of tones, as with a design to afford rest for the mind. *Perilla*, *Orach*, *Amaranthus melancholicus*, and those plants of which the leaves are a mixture of red and green, act the part of neutrals and contribute to the same end as green, but in a less degree. Notwithstanding the assertion that neutrals should always be placed in the centre of groups, I may state my firm conviction that it is founded on no principle, for the most decided contrast that it is possible to form is that of *Perilla* next grass, separated from a centre of scarlet, rose, or pink, by a band of white. It does not then afford repose as it would if it were planted in the centre, and the gradations of tone in a downward order.

A word as to the colours of gravel or the paths by which the masses are separated. Grey associates well with green, blue, and orange; and where the colours accord badly, there is an advantage in separating them by white bands or edgings—for instance, blue next green. *Lobelia speciosa*, or even *Purple King Verbena*, next grass accords better separated by an edging or band of white *Cerastium tomentosum*. Black combining with sombre colours to produce harmony of analogy, and with light and brilliant colours to produce harmony of contrast, is preferable to white. Yellow-tinted gravels are even worse than white, for they do not harmonise nor contrast with green or verdure. Gravels of a russet hue contrast and harmonise well.

Since there is nothing to do away with the monotony of masses of flowers, and afford repose, or but to a very limited extent, we must look to something beyond flowering plants. Shall we turn to earths of various colours to give an interest to our gardens in winter and spring? Will they do away with the monotony, and afford repose? Or shall we revert to the barbarous system of cutting shrubs into the shapes of birds and beasts? Few will be found to admit any merits in these; but who will deny that beds of low spring-flowering shrubs, and specimens distributed singly, would be out of character in a

geometrical flower garden? Would they not at once give interest, and destroy the monotony, whilst combining with other, it may be principal or secondary, points to form a whole, the extent of which may be seen at one view, and at the same time afford repose? Certainly they would give variety, and add to the apparent extent. It is necessary that they should be evergreen, and all planted that there may be the same correlation which is required by flowers. The different hues of green must be judged as we judge of the harmony of the colours of flowers. The points that must guide us, are—height, form, variety, facility of development, distinctness of aspect, and harmony of arrangement, as well as of colour.

If the object in a garden is to produce brilliancy of colour and monotony, then my argument is useless, and the general practice of planting masses of flowers unrelieved, unvaried, or but slightly varied, admits of justification. On the other hand, if my conclusions are correct, then the generally monotonous effect of our gardens ought to be changed by introducing shrubs and plants that would form no impediment to the flowers attaining a high degree of perfection, but be rival objects of beauty, whilst heightening the effect of the whole.

To the shrubs most suitable for geometrical and irregular gardens, I shall advert in another communication.—G. ABBEY.  
(To be continued.)

### THE SWEET-SOP.

SOME years ago, while staying with a friend in Yorkshire, he received a large case of Orchids and other plants from Singapore, among which was a bundle of cuttings, all planted together in a large tin case, each cutting about 7 inches long, without name or any clue by which to recognise them. Some had rooted, it is true, and were just beginning to grow; but for the most part they were in a wretched condition, and looked very unhealthy. As I have always had a fancy for any new or unknown plants, and my friend evidently did not set much store by his "leafless plants," as he called them, I begged they might be given to me, and on my request being granted I took them home the next day, and carefully planted in separate pots as many as I thought had any chance of living, putting them into a new hotbed, and keeping them moist and shaded for a week or two. The few which remained I stuck into the lark-bed of the stove, where I had been working, pushing them into the tan behind a large Pine.

I took immense pains with my cuttings in the frame, tending them with the greatest care, with too much, in fact; for, do what I would, after they had rooted slightly and begun, as I hoped, to grow, all died off, one after another. I moved two or three into a drier atmosphere, but with no better result, and the upshot of the matter was I lost them all; much to my vexation.

Two months after this, having occasion to renew some of the bark in the stove, I was moving the Pines for that purpose, when lo! behind one of them was a plant which I recognised directly as one of the very cuttings I had stuck in there ten weeks before. Yes, there it was, sure enough, growing like a Willow, with shoots 6 or 7 inches long, and looking as healthy as ever I wish to see any plant, the sole survivor of my three-dozen ill-fated slips!

The next thing to be considered was what should I do with it? Move it I must; but with the fate of its companions still fresh in my memory I hesitated about taking it up. However, at last I got a large pot, drained it well, and filled it about half full of good rich garden soil, mixed with a little leaf-mould. I then carefully dug out the plant, putting it into the pot, tan and all, taking particular care not to injure or disturb the roots, and kept it close and warm for a few days until I saw that it was settled, giving very little water. Directly it began to grow I placed it in the hottest part of the stove, where it could have plenty of sun. It grew rapidly, filling the pot with roots in the course of the summer, and forming a nice bushy tree. I kept it dry all the winter, repotting it early in spring, when it started afresh, growing with great vigour, and in August it bore three large greenish flowers.

Up to this time I had not the faintest idea what my tree was; but one day, while I was showing my plants to a gentleman who had recently returned from India, he exclaimed, "Why, you have got a Sweet-Sop tree!" and so it was. My cutting had turned out to be the *Anona squamosa*, or, as it is commonly called abroad, the Sweet-Sop.

After this I had much trouble with it, as the fruit would neither grow nor ripen, dropping off soon after the flower;

and for more than two years, although I obtained plenty of blossom I did not get anything else. At last, however, I hit upon the plan of growing the trees (for by this time I had several), in smaller pots and poorer soil, and I then had the satisfaction of seeing the fruit grow and ripen.

When ripe the fruit becomes of a yellowish colour, and is covered over with large scales on a thick rind. It is about the size of a small Pine Apple, and when cut open is not unlike one in appearance, only instead of having a firm flesh, it is filled with a delicious pulp, tasting uncommonly like Strawberries, or Raspberries and cream, with the creamy taste predominating. Even in this country, when well ripened, the flavour is delightful, and I have little doubt but that in its own it is far better. The fragrance of the pulp, too, is remarkable, being like rosewater, or rather sweeter—more like the scent of an old-fashioned Cabbage Rose.

There are, I believe, several other species of *Anona*, cultivated for the sake of their fruit, particularly *A. cherimolia* and *A. muricata*. They are all natives of the tropical parts of Asia, Africa, and America; but, as I know little about them, I shall confine my remarks to the Sweet-Sop (*A. squamosa*). This tree, even in its own country, never grows above 7 or 8 feet high, and here it never exceeds the size of a bush. To grow it for fruit it should be planted in a 13-inch pot, and kept plunged up to the rim in a bark bed, as it will not thrive without plenty of bottom heat. The soil should be a good ordinary garden loam, not stiff, and by no means rich, as if the soil is too good the tree will flower but not fruit. Like the Mango, the Sweet-Sop delights in a very high temperature, with plenty of moisture when growing, and requires little air. Indeed, it is best grown with the Mango and Mangosteen, and treated in every respect as these trees are, excepting that the fruit requires thinning as soon as it is fairly set, leaving no more than ten or a dozen on each tree. When ripe it should be cut, although it will hang for some weeks by removing the trees into a rather cooler atmosphere. Like many other fruits, it is best when gathered fresh from the tree.

At dessert the Sweet-Sop should be divided into two or four parts lengthwise, never across, a very sharp knife being needed to sever the thick rind. This must, however, be done at table, and not before dinner, or the fine aroma will be lost. When first opened one fruit will perceptibly scent the whole room, and for this reason, when practicable, the Sweet-Sop should always be served along with the Durian, its delightful perfume completely overpowering the disagreeable scent of that fruit.

One point must be borne in mind, which is, that the flavour of the Sweet-Sop depends entirely upon the fruit being thoroughly ripened in all the sun possible. For this very reason the taste often varies, sometimes being all that could be wished, and at others quite tame and insipid, the least shade when ripening being quite fatal to flavour.

The Sweet-Sop grows very readily from either seeds or cuttings, but when raised from seed it is shy of flowering, and, therefore, in practice, the latter is the best mode of propagating it. Care must, however, be taken not to give the cuttings too much water, as they are exceedingly liable to damp off until well established. They will not bear fruit for two years.

The Sweet-Sop is rarely attacked by insects, and is, not I believe, subject to any disease; it is easily fruited if grown in a small pot, and kept constantly in a high temperature; and, when the exquisite flavour of the fruit and its delightful perfume are considered, I think I shall not be far out if I express the opinion that ere long this luscious fruit will be found in every tropical fruit stove.—J. H.

### BOILERS UNSET.

"PEOPLE have such a dread of pipes, and bricks and mortar." So writes your able correspondent "R. F.," at page 283. No one will ever dispute the assertion. I have gone through the ordeal of erecting new boilers with brickwork on three occasions. I can shudder at the remembrance of erecting the last. It was one that required the full exercise of the mason's ingenuity. It took him half his time to "scratch his head," and nearly as long to get his tools, &c., together. It was at last complete, and the account also. If I mistake not I was charged for about three hundred more bricks than were ever used; but that was nothing to the labour! Man, 5s. a-day; big boy, 3s. 6d.!! All I could do was like unto that in which the mason "excellent"—viz., "scratch my head!" This I did very feelingly, having resolved to act differently if I ever "got

into a mess again." About eighteen months afterwards the boiler in question "gave up," and whilst scratching my head again, I thought I would do without brickwork. Now, if any of your readers should require a simple and efficient heating apparatus, one that can be put up or taken down quickly, and, above all, "no brickwork," let them get Bury & Pollard's boiler, Truss's patent piping, and half a dozen glazed drain tiles for a chimney. If these things are introduced to the gardener about "lunch time," the same may be in operation in time for "backing-up." This is possible, easily and pleasingly possible!—H.

### NEW ROSES.

Do our French friends want a motto for their catalogues? Let them by all means take "*Omne ignotum pro magnifico*," for assuredly we must subscribe to it; and however false we may believe some, and however exaggerated others, of the statements to be, we cannot say they are not as they describe. I am now venturing into a *terra incognita*, or rather on a wide and extensive sea, or, if you will, a desert seemingly bright and fair—translucent waters, waving Palms, lovely flowers present themselves to my bewildered eyes. But alas! I have seen them before, and I have found out that it was only a mirage after all, that the tales were all too flattering, and that hopes disappointed and promises unfulfilled were all that I had to tell of. I know nothing of the Roses described in the following lists, and therefore all must be mere conjecture; still, much may be learned, I think, from the experience of the past. If a man tells me year after year that he will send me the very best, let me say, tea, and year after year I find that it is only sloe leaves, or some bad and inferior stuff, why, in the end I come to the conclusion that either he does not know what good tea is, or else—well, we will not say that hard word. If the tea were the produce of his own estate in Assam I should, perhaps, be charitable enough to hope that he saw in it perfection. I did not because it was his; and, indeed, this is a very ordinary way for people to act. They get into a strain of seed, the flowers are defective in some points, but they cannot see it; and so they go on and on, distanced by their competitors from the blind adherence to their own productions, although every one else sees the difference. Who does not know the frequenter of flower shows who has always finer Geraniums, larger Apples, and better Grapes than any there? He sees with his own eyes, and not with yours. One hardly blames a man for this partiality, although it may make us cautious in having to do with him. Let him think his geese swans, it does not harm us; but what I do dislike is the way in which some people will endeavour to make out that others' real swans are only geese. Show a country photographer one of Meunier's or Disden's cartes, and he will be sure to find out something wrong; and so there are some who, if a flower or fruit is not theirs or let out by them, see nothing in it. There is one French raiser to whom these remarks will apply—I mean Trouillard, M. Leroy's foreman at Angers. I verily believe he considers that his Roses year after year are good. They, provokingly, are only a little way off from being so—some, at least; but none will abide in our lists, Eugène Appert, perhaps, alone excepted. They want either a few more petals, or else shape. Marguerite Appert, Madame Standish, Reynolds Hole, Thérèse Appert, even André Leroy will not do for our English taste; and hence if any of Trouillard's Roses appear in our new lists one must feel a doubt about them. The same remark applies in a greater or less degree to others.

#### TOUVAIS.

17. *Comte Alphonse de Serenge*.—Very vigorous. Flowers very large, full; perfect form, and striking appearance; very sweet-scented, clear red, very lovely, slightly tinged with purple.

18. *Danica*.—Very vigorous. Flowers very large, full, of a beautiful rose-coloured cerise, transparent, and very brilliant.

19. *Mousseline*.—Very vigorous. Flower medium-sized, cupped, admirably formed, tender flesh rose; petals fine and transparent.

In 1864 this grower gave us Belle rose, Semiramis, Souvenir d'un Mère; in 1863, Centifolia rosea and Jean Touvais, but they have not been any great acquisitions. I have heard Centifolia rosea well spoken of, but have not seen it. Remembering M. Touvais' treatment of us in former years we have need to be cautious.

#### LIABAUD.

20. *Jean Cherpin*.—Vigorous. Flowers very large, full, red velvety purple; the centre clear fiery red.



21. *Marcella*.—Very vigorous. Flowers large, full, cupped, fine salmony rose, new colour.

22. *Purpurea*.—Vigorous. Dark foliage. Flowers large, full, reddish purple shaded.

Monsieur Boncenne of last year has been well spoken of, but I know nothing of it; and neither Arles Dufour nor Madame de Canrobert of 1863 have made for themselves a name or even a "local habitation;" and hence one is not over-sanguine as to these three Roses.

#### DAMAIZIN.

23. *Abel Grand*.—Very vigorous, really Perpetual. Flowers large, full, beautiful silvery satiny rose.

24. *Frederic Biborel*.—Very vigorous. Flowers large, full, beautiful lively red, passing to cerise red bordered with lilac.

25. *Hippolyte Flandrin*.—Very vigorous. Flowers very large, full, well formed, fine lively rose, superb.

In looking through the lists of the last two years I do not see that any of this grower's flowers have been favourites. 25 sounds well, but so do they all.

#### DUCHER.

26. *Abraham Lincoln*.—Very vigorous, having some similitude to Charles Boissière. Flowers very large, full, blackish purple.

27. *Gloire de Ducher*.—Very vigorous. Branches and foliage reddish, like *Géant des Batailles*. Flowers very large and full, having some analogy to Madame Masson, with the petals at the centre purple, those of the circumference slaty. Admirable.

28. *Louis Noisette*.—Vigorous, having some analogy to Baronne Prevost. Flowers full, globular, well formed, fine carmine rose, very beautiful.

Marie Perrachon, Rosa Mundi, and Vase de l'Élection were the production of this raiser in 1865, and Le Mont d'Or and Benoit Cornet in 1864. They are now unknown to our lists, and notwithstanding the glowing descriptions of this year, one must look with suspicion on them.

#### OGER.

29. *Aurore Boréale*.—Very vigorous. Flowers large, full, globular, lively shining red.

30. *La Tendre*.—Very vigorous. Flowers large, full, cupped, fine rose Hortensia.

31. *Triptoleme*.—Plant very vigorous. Flowers medium, full, globular, very lively scarlet red.

Who knows anything of Belle Normande, Général de Mian-dol, Marie Boisse, this raiser's productions in last year, and Charlemagne, George Simon, Madame Malherbe, Marquise de Briges, or Michel Ange of the year before, and applying this test, who is likely to see after the first year anything of those now advertised?

#### GRANGER.

32. *Carl Coers*.—Vigorous. Seedling of Triomphe de l'Ex-position. Flowers large, full, shaded purple.

33. *Exposition de Brie*.—Plant vigorous. Flowers very large, full, well formed, lively shining red. This variety obtained the silver gilt medal at the Exhibition at Brie.

33 Sounds well, but we have only, as far as my memory serves me, some second-rate Roses of this grower's. If the Judges at Brie know good flowers then 33 ought to be a good one; but I have learned long since that their views and ours differ, and hence shall not be disappointed if even it fail to satisfy us. I may be, of course, wrong in applying the test that I have done, and a raiser who has never given us anything good may change his mind and give us good Roses; but we have had long experience and, I may add, many grievous disappointments, and hence are cautious. I hope to conclude the lists in my next.—D., Deal.

### VINEYARD UNDER GLASS.

The opinion that you have expressed of my Grapes is very encouraging. I have, probably, been too ambitious in attempting to cultivate such as the Muscat of Alexandria and West's St. Peter's. Next season, if favourable, will show whether the Trentham Black, Early Saumur, Sarbelle, Chavoush, Chasselas Musqué, Chasselas Violet, Chasselas Rose, and White Frontignan will ripen well without fire heat. The wood of these young Vines is thoroughly hard, and I have already pruned them.

Your correspondent "F. J. S." will find in Rivers's "Orchard-House" every information that he will require to build such a span-roofed house as my own. At first I followed Mr. Rivers's

directions implicitly; and the only alterations that have been subsequently made are, that the ventilating shutters have been lowered, so that they rest on the ground when open; that the space above them is now filled in with glass; and that I have strengthened the roof by binding the rafters together by two long, flat, and light bars of iron, one on each side, running the whole length of the house, and attached to the centre of each rafter.

My glass is 20 inches by 20. I think 20 by 16 would be preferable, as high winds will now and then snap the squares in two. The estimate given in Mr. Rivers's little book for the erection of a span-roofed house, 30 feet by 14, is £28. Mine cost me under £35. It would have been more had not I and my man Friday worked very zealously at it; the painting was entirely done by us.

Two years before the erection of the house the piece of ground on which it stands had been trenched 2½ feet deep; and when the Vines were planted some bone-dust and lime-rubbish were added. The subsoil being of very porous gravel, no drainage was necessary. The ventilators over the door and at the end of the house have been kept open night and day since the beginning of April last; and before next season I shall contrive to ventilate the middle of the house by framing one or two of the panes of glass next the ridge-board.—M. B., West Somerset.

### FLORAL DECORATIONS IN NEW YORK.

In the rapid development of the material resources of this country, Horticulture has not been neglected, but has rather led the van in the common march of improvement, and, as a natural consequence, refined the mind and elevated the tastes of all within its sphere of action. Even a casual spectator cannot pass through this city without being struck by the facilities afforded for the indulgence in the luxury of flowers, even by those of moderate means; for from the City Hall to Thirty-fifth Street, at every short distance along Broadway, may be found young boys and girls earning a good livelihood by selling to passers-by bunches of Violets, or bouquets, at from ten to twenty-five cents each. Sometimes an enterprising speculator may be met with a painful of beautiful white Water Lilies, in their season, for which he finds a ready sale; and should the means admit of a more expensive investment, a visit may be paid with much gratification to some of the tastefully-fitted-up florists' stores, where, at from sums varying from five dollars to 150, a bouquet or basket of flowers can be purchased, arranged with all the art and taste of a talented manipulator; and what with constant practice, extensive competition, and, I may add, liberal patronage, the florists of this city are in a fair way of adopting as their motto "Second to none," at least so far as the ornamental department is concerned.

Dining-room and parlour decorations have not been neglected, and here the natural taste of the ladies has directed the efforts of the florists, and produced many pleasing and telling tableaux. I well remember being present one morning at Kensington Gore, when Her Majesty paid an early visit to see all the gardeners busy at work arranging their various productions, one of the finest sights to be seen there; later in the day the late lamented Prince Consort opened the gardens, and showed himself a skilful horticulturist by planting a Wellingtonia, handling the spade as readily as if it had been His Royal Highness's daily occupation, and no dainty tool either, but a *bona fide* garden spade, and of which the owner (Mr. William Miller, now of Coombe Abbey) was so proud, that he declared it never should be used again, but be kept as a memento of the honour done his profession. Well, that same day prizes were offered publicly, for the first time, for dinner-table decorations, and I was much struck with the simple elegance of the successful stand, as compared with others arranged with more show but less taste; and here, sure enough, a lady showed her intuitive appreciation of what was at once natural and effective by carrying off the first honours. I have since then both seen and read a good deal of dinner-table "fixings," nor have the able staff of THE JOURNAL OF HORTICULTURE been behind in encouraging, by well-matured opinions, the taste for this refined luxury; but it is a very difficult matter to lay down rules, as is sometimes attempted, for this, when so much depends on individual taste, and the occasion for which that taste is exerted. The finest display in this line that has ever taken place in New York occurred last night, when that thorough specimen of an English gentleman, Sir S. Morton Peto, gave a farewell banquet to his

numerous friends and well-wishers on this side of the Atlantic at Delmonico's, Fifth Avenue Restaurant, and never have the capacities of that establishment been tested to such an extent as then. It is also generally conceded that there were the best and most tasteful of floral decorations that have ever been seen in this city, and as it may be interesting to the readers of THE JOURNAL OF HORTICULTURE, I will try and give some idea of the floral part of the entertainment.

There were five long tables running the whole length of the great banquetting-hall, and a raised dais at either end for the host of the evening and his principal guests. Behind Sir S. Morton Peto's seat were festooned the British and American flags, enclosing the British coat of arms, and at the lower end the same emblems of Liberty enclosed the American shield, and as the British lion growled out from underneath the folds of bunting, "*Dieu et mon droit*," the stately shield, with an eye to business, replied "*E pluribus unum*." Ornamental baskets and stands of flowers graced, but did not crowd the principal table, the elegant dinner service of which, I may state, was manufactured in honour of the Prince of Wales during his visit to this country, and was used at the reception dinner given him in this city. At proper intervals along the other tables were placed ornamental stands of flowers, with pendant baskets attached, all filled with the rarest flowers of the season, and each stand surmounted by a miniature Union Jack, and in the finger-glasses of each of the 400 guests was placed a small flat bouquet, fragrant with Heliotrope, Tuberoses, Jasmine, &c., backed with rose Geranium. The ornamental stands are made of cane, painted white and gilded, the tins for the flowers showing blue through the lattice work, and are much more effective and pleasing to the eye than glass stands.

Throughout the suite of rooms attached to the banquetting-hall were dispersed flowers in great profusion, every bracket and chandelier having a hanging basket attached to it filled with flowers, and dispersing the most delightful fragrance throughout the vast suite of rooms. But the great piece of the evening was a massive emblematical floral device of mosaic, at least 4 feet by 2½, placed on a table in the centre of the principal parlour, having the Union Jack and star-spangled banner plainly traced out with flowers, almost as distinctly as the painter's brush could do it, and with great fidelity in the harmony of colours. The staffs (transversed) were formed of yellow Immortelles, and the colours in the Union Jack were nicely brought out with red Carnations, white Eupatorium, and blue Ageratum. In the American flag the red and white stripes were formed alternately of Bouvardia and Sweet Alyssum, with single pips of Laurnstinus for stars on a blue ground formed of Ageratum, the whole piece filled in with Camellias (white), Tuberoses, Safrano, Agrippina, and Hermosa Roses, Heliotrope, Carnations, Eupatorium, Neapolitan Violets, &c., edged with leaves of Cissus discolor, Dioscorea, Ferns, Lycopods, Tradescantia, &c., the whole forming a most appropriate international design, and, notwithstanding a lowering horizon, inwardly suggestive of harmony and peace, betwixt the two great Anglo-Saxon nations.

Mr. William Brower, one of the leading florists of this city, superintended the whole of the floral decorations, and the entire arrangement did much credit to his taste and judgment. Sir S. Morton Peto sails for England in the Scotia to-morrow, and carries with him the good wishes and goodwill of the American people, and were more men of his stamp to cross the Atlantic there would be much more cordial unity betwixt the two nations than has heretofore existed.—DAVID FOULIS, *New York, October 31st, 1865.*

#### RAINFALL IN OCTOBER, 1865.

In compliance with Mr. Robson's request, in No. 241, to know the amount of rainfall in October in different localities, I beg to inform you that rain fell here on twenty-eight days in that month, and the total amount was 6.14 inches, exactly 2 inches less than at Linton Park. The greatest amount in one day was 0.98 inch on the 22nd. In September there was only 0.19 inch; in August rain fell on sixteen days, and the amount was 3.47 inches.—CHARLES ROSS, *Gardener, Welford Park, near Newbury, Berks.*

SEPTEMBER was a very hot and dry month, rain fell on one day only, the 21st, to the amount of eighteen hundredths of an inch. The grass was much burnt in places, but vegetation would have received a much greater check had it not been for the remarkably heavy dews which we experienced here through-

out the month. On three mornings there was upwards of one hundredth of an inch of dew.

October commenced with much the same kind of weather up to the 8th, and from then till the 31st rain fell on thirteen days. The greatest amount that fell on any one day was 1.15 inch on the 9th. From the 8th to the 12th, 2.27 inches fell; on the 17th, another half inch fell; and from then to the 31st ninety-four hundredths more, making a total of 3.71 inches for the month, being less than half the quantity which fell at Linton Park.

I have not any record of so great a rainfall as that which Mr. Robson records, the nearest approach to it that I have is November last year, when I registered 7.13 inches, and that was registered within thirty miles of Linton Park.—A. READ, *Newark-on-Trent, Notts.*

#### MESSRS. PATERSON AND THEIR POTATOES.

On the 10th inst. Messrs. Wm. Paterson & Son were entertained at a public dinner in the Royal Hotel, Dundee, and presented with a very handsome silver épergne and claret jug, in recognition of the improvements they have effected in the Potato plant. The following inscription is to be engraved on the épergne:

"At a public dinner given to Messrs. Wm. & Geo. Paterson, this Épergne, along with a Claret Jug, was presented to

MR. WM. PATERSON.

(To descend to Mr. Geo. Paterson should be survive his father), in the name of the subscribers—landed proprietors, farmers, Potato merchants, and other friends—as a mark of their respect for him, and also of their admiration of his successful exertions during the past forty years to improve and renew the Potato plant.

Dundee, 10th Nov., 1865."

Upwards of one hundred gentlemen sat down to dinner, which was tastefully and liberally furnished by "mine host" of the Royal. A leading and most pleasant feature of the dinner was the presence of the giant Potatoes, "The Victorias, the Reds, and the Blues," boiled in their jackets, which were much too small for them.

After the usual premier toasts and some preliminary observations, the CHAIRMAN, Bailie Yeaman, said—Gentlemen, the subject of the toast which I am about to propose is one of the most important that the people of any town or any county could be called upon to respond to. The meeting has been brought together in the most spontaneous manner possible, and I believe on account of a thorough appreciation of the great services that the Messrs. Paterson, our esteemed friends, have rendered to the country, and I hope to the world at large. (Great cheering.) There are none that will challenge the great importance of the Potato in this country, in most of all points of view. We recollect that in the year '46, when the severe Potato blight first attacked this country, in the great calamity which befel the country generally at that time, but particularly the inhabitants of the sister isle, the plant was almost swept away. We are aware that no crop is of greater value to the agriculturist than a good crop of Potatoes, and we are all aware that no acre of cereals or any other produce, yields a larger amount of food than an acre of Potatoes. So you must calculate the great amount of good that this esculent does to the country; and while Mr. Paterson has been going on benefiting the country, I am sure it has not been for his own advantage. (Hear, hear.) I do not say it has been for the pecuniary profit of Mr. Paterson, but I am sure every gentleman here will be delighted to hear if Mr. Paterson's enterprise will at one time turn out to his advantage. (Loud cheers.) It has been said that the man who can make two blades of grass grow where only one has grown before is a benefactor to his country. But Mr. Paterson has done more than this, he has restored the Potato from its dead rot, from being almost extirpated from the country, to its present healthy state, and I say he has been a great benefactor. (Applause.) Gentlemen, he is not only entitled to the thanks of those here, or of this community, or of this country, but to the thanks of the British Government, and I have no doubt if this matter were brought before them, it would be taken notice of, and he would be rewarded in some way or other. (Renewed applause.) I believe, gentlemen, Lord Dalhousie has taken a very great deal of interest in this matter since he heard of what Mr. Paterson had done. And I would refer also to the great number of letters—complimentary and approving letters—to Mr. Paterson, who has received them from hundreds of persons of all stations in Scotland, England, Ireland, over the Continent of Europe, Australia, and New South Wales. You are all aware, gentlemen, of the prizes he has taken at the Dublin Agricultural Exhibition, International Exhibition, and the Horticultural Shows of Dundee. I do not see it necessary for me, in the presence of Mr. Paterson, on this auspicious occasion, to say more in regard to the benefits which he has conferred on the country, and with which, the great majority of you being agriculturists, you are better acquainted than I am, and I am sure you all appreciate these services. The next duty which devolves upon me before I propose the toast, is to present this very handsome épergne, which I now uncover—(loud cheers)—and also this solid



silver claret jug. I am sure that Mr. Paterson will duly appreciate these handsome presents, and will be proud of them, not only for their value, but as being an expression of the feelings of the gentlemen who presented them to him, and they will go down to his posterity as heirlooms.

MR. PATERSON said he was almost unable to find words to reply to the toast which had just been proposed, and the substantial present which had been given to him. When a boy he began to experiment on the Potato plant, but he never thought the time would come that his experiment would arrive at such a result. He was then in his father's service, and for eight years he was his father's manager. As they knew, he was a market gardener, and thus he had ample opportunity for conducting his experiments. The Potato, like all other plants and animals, was subject to diseases, and required careful attention and renewal. (Hear, hear.) The method of procedure he adopted was to select the finest and healthiest kinds, and cultivate them. (Applause.) He begged to thank them for the honour they had done him, and he hoped their valuable present would continue in his family so long as they bore the name of Paterson.

MR. GEORGE PATERSON also replied. He was sure all present who knew him would believe that he highly appreciated the honour which had been done him; and he could assure them, if it was the will of Providence that this valuable present should fall into his hands, he would value it as one of the most cherished articles in his possession. As he was not much accustomed to speaking, his father had drawn up a paper narrating the progress and result of his experiments, which he would read to them. He then read as follows: "From early life I have taken a deep interest in the Potato plant. My father being an extensive cultivator of fruit and vegetables in this quarter, it gave me a favourable opportunity of observing the cultivation of the Potato, from the delicate garden variety to the strongest kinds under culture in this country. My notice was first attracted by some of the earlier sorts weakening in constitution, and in the course of a few years becoming almost extinct or worthless as a useful and paying crop. I next turned my attention to the more robust field varieties then grown, and with the like result. I then formed an opinion (from which I have never had cause to depart), that the Potato plant was only designed to serve its generation, the same as in animal life, and that without a constant and successive renewal from the seed or apple it was quite probable this most valuable esculent might be lost to mankind altogether. About forty years ago a disease termed curl attacked the plant, causing it to become quite stunted both in haulm and tuber, and ever since then the plant has been liable to visitations of disease in one shape or other—such as soft rot in the ground, decay after storing, and some seasons it was not only difficult but almost impossible to find a regular braid, while whole fields were a total blank through this cause. Every preventive and restorative I could conceive I tried in order to regenerate the plant, but with little satisfaction. In 1846 we had the first visitation of the fatal blight, which nearly destroyed the whole crop of this country, and which has since then annually manifested itself all over to a greater or less extent. In 1847, in conjunction with Professor Johnston (who was commissioned by our Government to inquire into the cause of the epidemic, and if possible find an antidote), and other scientific gentlemen, we made various and extensive experiments in order to attain the end in view. As to the cause, many conjectures were put forth, but as to the remedy that never was arrived at. My own conviction regarding the Potato blight is that there is no direct cure for it, but that it is entirely an atmospheric action in the plant, it having the seeds of disease within itself, and that it will be always more or less subject to it. Before arriving at this conviction, I planted year after year all the varieties I could obtain from the coldest and warmest countries, used all the manures I could think of, tried by different processes of planting and lifting, by preparing the ground and seed, to arrive at some satisfactory result. During the growing season, I have microscopically examined the growth of the plant in all its stages, and I have remained in the field in July (the growing season), when the blight would overtake the plant with virulence, during sultry weather, and seen the moisture evaporate from the haulm, and the disease became stayed, and no recurrence of it took place until the like weather returned. From that time I determined on carrying out my original idea of raising and improving seedling varieties. The York Regent was the first Potato that answered in this quarter after the blight, in preference to varieties from Archangel and other cold climates; then followed the White Rock. This variety took my especial attention. With its strong robust constitution and vigorous habit, it proved the ablest variety to resist the disease of any then grown, but from its rough appearance and its then inferiority in quality, farmers would not take to it for years. Now it has become one of the most useful varieties grown, and of excellent quality. In 1854 I obtained from almost every country where the Potato is found a collection of the best sorts, and planted them side by side in the open field, in order to get as complete and fresh a variety as possible. The experiment was successful. Through the agency of insects and otherwise there was a thorough mixture, and from the seed or apple then produced sprang these improved varieties which I have now given out to the public. Through the medium of the newspaper press and otherwise, public attention has been very widely directed to my experiments, and orders for seed have been received from many parts of the world. We have sent considerable quantities of it to Australia, New Zealand, India, Germany, France, Russia,

Denmark, Sweden, &c." Mr. George Paterson then continued—I would like to mention to you an incident illustrative of the necessity of particular attention and care being given to the cultivation of the Potato. Five years ago my firm selected from among our seedlings a quantity of a blue variety, which yielded largely, and promised well. One fault, however, they had, and this was, that while they were blue without, they were also bluish within. On this account we almost gave up the idea of cultivating them longer. We resolved to give them a last chance; and by mere accident in cutting them down for seed, I observed that some of them were quite white in the inside, though outwardly they appeared similar to the others. It struck me at once that here I had discovered a distinct variety of the blue Potato—a Potato which would become very valuable, I determined to experiment on it. I got out of the heap, after careful examination, a basketful of these Potatoes. We planted them; and at the end of the season we found that they turned out a large crop, and first-rate in quality. These, gentlemen, are now Paterson's Blues—(applause)—and I think they are destined to take a lead in the Potato field; and now we have at least 100 tons of them. The other Blues from which they were taken were at last rejected as faulty, as were many other varieties which we raised. Well, gentlemen, this accidental discovery of this fine blue variety shows that there exists great necessity for careful observation in the cultivation. How many good kinds have been lost to us from the want of care and attention. Many who have devoted much time and labour to the subject have given it up at last as vain. There is in the vegetable, as well as in the animal kingdom, a predominance of the inferior over the superior; and no wonder that, in trying to raise the breed, one retires from the task in despair. But after all, in my opinion, the task is not hopeless. Here I am led to make a remark. To me it seems that this matter of the cultivation of the Potato is one which might properly enough command the notice of a paternal Government. We all know the value of the Potato to the farmer for feeding his cattle; we all know its value to mankind; and we know the awful calamity which befel the country in 1846, when in one night the plant, through the length and breadth of the land, was struck with the fatal blight. Who knows how soon the scourge may come upon us again? Considering this, would it not be desirable that the Government should take up the matter and appoint parties of experience to adopt means to preserve the Potato from degenerating, and thus becoming more liable to disease? Even this season the blight in some districts has been severe, and the sooner steps are taken to avert it the better. It is a public duty to obtain and keep up the best and healthiest varieties from whatever source they can be got. The disease cannot, in my opinion, be prevented; but surely it is possible to mitigate it. (Hear, hear.) He concluded by saying that no manure was absolutely necessary for the cultivation of the Potato, but he advocated the use of a little light manure. Guano was the best, and soluble guano had been found by them in many cases to do as well as Peruvian guano.

MR. LANGLANDS, in proposing "Success to Paterson's Seedlings," said he was one of the first who understood and appreciated Mr. Paterson's endeavours to improve the Potato plant. For a long time Paterson and his Potatoes were a standing joke among the farmers. I thought the thing a joke, I frankly acknowledge; but Mr. Paterson persevered. Wherever there was a piece of bad land there Paterson set down his Potatoes. There was one field in particular, in my immediate neighbourhood, which I noticed every time I went to Dundee. I saw there was an appearance of Potatoes growing and that was all, and I thought that little could come out of that field. At the end of the season no one seemed to be coming to lift them, and I imagined that it had been considered they were not worth looking after. But, one evening when I was returning home, I saw dimly through the mist several figures in the field, and they seemed to be digging. On coming up I noticed my friend Mr. Paterson amid a corps of Irish labourers, and I said to him, "Hilloa, what are you doing there? You can get nothing in that field." He replied, "What do you say, man? Just come and see this!" Well, I thought I would just stop, and on going into the field I saw him thrust his hand into several shaws and bring out Potatoes which, for size and promising appearance, certainly astonished me. The crop was abundant, and from that day to this I have been satisfied that Paterson's seedlings are no joke; and though many a farmer was, like myself, sceptical about them, I think every one has become a convert like myself. Having, as I said, been convinced, I have been growing Paterson's Seedlings ever since, and I refrain from telling you the yield of some of my crops for fear that you would not believe me.—(*Dundee Courier.*)

## REPORT ON THE BRISBANE (QUEENSLAND) BOTANIC GARDEN.

THE following is an extract from the Report made to the local Legislative Assembly, by Mr. Walter Kell, the Colonial Botanist, and Director of the garden. It is dated, Brisbane, 5th August, 1865.

"Some tropical and semi-tropical trees and shrubs which have previously borne fruit in these gardens, produce a more abundant crop as they increase in size and age. Of these the Sweet-Sop (*Anona squamosa*), the Cherimoyer (*Anona cherimolia*), and *Anona muricata*, are, perhaps, the most desirable for cultivation. The useful Jaco Tree



(*Artocarpus integrifolia*) of the East Indies, had also produced a large quantity of fruit. The Cassava (*Jatropha manihot*), the tubers of which furnish a food much valued in the West Indies, &c., has succeeded well. The variety in the garden is that known as the sweet or blue Cassava, and is considered the best.

"Amongst recent introductions of useful plants, I have to mention the receipt of a large number of plants of the Cork Tree (*Quercus suber*), through the kindness of Mr. George Macdlay. The whole of these have already been distributed to persons residing in different parts of the colony, and from whom the plants will no doubt receive the care and attention which they so well deserve. Also, the Java Almond (*Cannarium commune*), and the beautiful Indian Mesna ferrea, which will be well adapted for ornamental purposes. The Maltese Clover, or French Honeysuckle (*Hedysarum coronarium*), has not realised the expectations I had formed of its value as fodder. It does not flourish well in summer, and many persons whom I have supplied with seeds have attempted its cultivation without success.

"In my late journey to the north, I was enabled to collect many useful and interesting indigenous plants, which will prove valuable for cultivation in the gardens, but especially so for purposes of exchange. Of these, a Scitamineous plant may be regarded as particularly interesting, its fruit supplying the aborigines of the north with a food as highly prized by them as the Banya Banya by the natives of the southern districts. This plant was seen by Carron, in Kennedy's unfortunate expedition, and described by him as a singular Pine-Apple-looking plant. It is, I believe, new to science, and the great value of its fruit as an article of food has been hitherto unknown. I had also an opportunity of collecting seeds of a species of *Eugenia*, known to the settlers as the 'Cherry tree,' which produces a delicious fruit; of a new and very handsome Cycaedaceous plant, as well as of *Cycas media*, the native Banana (*Musa Jackii*), and also the *Nelumbium Leichhardtii*, all of which furnish the natives with edible fruit. I also collected many fine Fern plants, some of which are new to the Australian flora. Many other valuable plants might have been procured, had the due discharge of my other important duties allowed sufficient time and opportunity to become acquainted with the rich and extremely varied flora of Rockingham Bay."

## THE UNITED HORTICULTURAL SOCIETY'S FLOWER AND FRUIT SHOW.

NOVEMBER 14TH AND 15TH.

THIS was held on Tuesday and Wednesday last in the Guildhall of the City of London, the scene of many a civic banquet; but on this occasion it was on a banquet for the eye, and not for the palate, that those grim giants, Gog and Magog, and armour-clad knights looked down. Unfortunately, from the murky state of the atmosphere, the recently completed noble gothic roof of the hall was invisible throughout the fore part of the day, and the hall itself presented a gloomy appearance; but in the afternoon, when lighted up, the general effect of the exhibition was very good. Fourteen fine specimens of *Dicksonia antarctica*, from 5 to 7 feet high, which stood sentry along the sides of the hall, and which were sent by Messrs. Low & Co., of Clapton, were, perhaps, the most striking feature of the Show, and in the intervening spaces along the sides were grouped specimen *Chrysanthemums*, *Heaths*, and *fine-foliaged plants*, whilst at the east end were various *Rhopalas*, *Yuccas*, *Draecenas*, and other *fine-foliaged plants*, contributed by Mr. Williams, of Holloway, with large groups of *Chrysanthemums* from J. Crute, Esq., of Holloway, and J. Delvalle, Esq., of Stoke Newington. These, though well arranged, had rather a flat appearance, and would have been better of the introduction of some taller-growing plants, elevated among them, so as to be more in proportion to the height of the hall. In the central area were five tables, on which were arranged the cut blooms, fruit, and some pet plants. Considering that there was no inducement offered in the shape of money prizes, the Show on the whole was a good one; and though plants were not very extensively represented, any deficiency in this respect was made up by the abundance and excellence of the fruit.

**CHRYSANTHEMUMS.**—Of large-flowering kinds Mr. Forsyth, of Stoke Newington, had a very good group of six, consisting of Annie Salter, in fine bloom, Golden Christine, Vesta, Lady Harding, Christine, and General Bainbridge. A group of three, consisting of the two last named and Annie Salter, full of bloom, as well as groups of very well-grown large-flowering plants and Pompons, with some excellent standards of both, were also shown by Mr. Forsyth. In one of these groups the variegated Orange was introduced with good effect. Mr. George, gardener to Miss Nicholson, Stamford Hill, also exhibited six large-flowering *Chrysanthemums*, consisting of Jewess, very full of bloom, Alma, Beauté du Nord, Her Majesty, Vesta, and Annie Salter. In the class for three, Little Harry, from the same exhibitor, was beautifully studded with a profusion of its rich amber-coloured blooms, and Christine was also good. Mr. Rowe contributed finely-bloomed plants of Annie Salter, Christine, and Beauté du Nord; also an excellent group. Among Pompons were well-bloomed plants of Bob, Cedo Nulli, Lilac Cedo Nulli, and General Camrobert, from Mr. Forsyth and others.

Cut blooms were shown in considerable numbers, and though not generally so large and fine as in former years, in good perfection. The only exhibitor of 36 was Mr. Forsyth, whose stand contained good ex-

amples of *Plutus*, *Anaxo*, *Princess of Wales*, *General Slade*, *Venus*, *Prince Alfred*, *Dr. Brock*, *Cherub*, *Golden Ball*, *General Bainbridge*, and others. In 24's Mr. James, Rochester Castle, Stoke Newington, had a fine stand, in which we noticed *Princess of Wales*, *Prince Alfred*, *Prince of Wales*, *Queen of England*, *Empress of India*, large and fine, *Beverley*, *White Globe*, *Rifleman*, *General Slade*, *Dr. Brock*, *Aimée Ferrière*, *Rev. J. Dix*, *King of Denmark*, *Plutus*, and *Oliver Cromwell*. In 12's Mr. Morgan, Plymouth, had very fine blooms of *Duchess of Wellington*, *Venus*, *Robert James*, *Oliver Cromwell*, *Beverley*, *Rev. J. Dix*, *Prince Alfred*, *Prince of Wales*, *Princess of Wales*, very slightly tinged with that beautiful rosy lilac which makes the variety so attractive, *General Slade*, *Nil Desperandum*, and *Cherub*. Mr. Howe, Shacklewel; Mr. Rowe, Mr. James, and others also exhibited good stands. In the class for six blooms, those from Mr. Morgan, Plymouth, were remarkably fine; they consisted of *General Slade* and *Rev. J. Dix*, very large and perfect, *Princess of Wales*, large and fine, *Prince Alfred*, *Prince of Wales*, and *Venus*. Very good stands were shown by Mr. Wheldal, who was second, Mr. Delvalle, third, and Mr. Howe. For six blooms of varieties sent out in 1861 Mr. James was first, with *Empress of India*, *Prince Alfred*, *Princess of Wales*, *Robert James*, *General Slade*, and *Rev. J. Dix*. For six varieties sent out in 1865 Mr. James was first, with Mr. Bruneles, Sam Weller, *Venus*, *Prince of Wales*, *Mrs. Kaines*, and *Lady Carey*; Mr. Forsyth second, with *King of Denmark*, *Golden Ball*, *Golden Dr. Brock*, *Venus*, *Sam Weller*, and another. All the above have already been described in our columns.

Of the large *Anemone*-flowered varieties, those principally shown were *Gluck*, *Margaret of Norway*, *Louis Bonamy*, *Queen Margaret*, and *Lady Margaret*, from Mr. George, who was first for six; and *George Hock*, white; *Madame Godereau*, sulphur; *Prince of Anemones*, noticed last week, *Gluck*, and *Miss Margaret*, from Mr. Forsyth; and Mr. Howe was second with several of the above kinds and *St. Margaret*, Mr. Forsyth taking a similar position for *Chrysanthemums* of 1864, in which class his *Anemones* were shown. For 12 blooms Mr. James was first. *Pompon Anemones*, shown by Messrs. James, George, Rowe, and Cox, comprised good blooms of *Miss Nightingale*, *Firefly*, a fine showy scarlet, Mr. Astie and *Antonieus*, yellow, &c.

FRUIT was chiefly confined to that of out-door growth, though a few *Grapes* and *Pines* were also shown. Among the last was a noble *Smooth-leaved Cayenne*, weighing 10 lbs., from Mr. Page, gardener to W. Leaf, Esq., handsome in shape, and in every respect highly creditable to its producer. A large *Providence* was also shown by Mr. Sparrow, gardener to Lord Ebury, Moorpark, Hertfordshire; a good *Queen* by Mr. Howard, gardener to J. Brande, Esq., Balham; and the fruit of *Charlotte Rothschild*, noticed last week, by Mr. Challis, gardener to Lady Herbert, of Lea. Three *Pines* were also exhibited by Mr. Young, Leigh Park. From Messrs. Lane & Son, Great Berkhampstead, came handsome bunches of *Barbarossa*, about 6 lbs. in weight; *Buckland Sweetwater*, in excellent condition, having hung since August, *Chavoush*, *Foster's White Seedling*, *Espereine*, *Black Hamburgh*, and *Black Prince*. *Trebiano* was also shown by Mr. Tillery, gardener to the Duke of Portland, Welbeck.

Apples and Pears were numerous, and among them were many fine specimens. Of the former a very extensive and excellent collection came from Mr. Newton, gardener to J. G. Graham, Esq., East Lodge, Enfield Chase. Mr. Baker, gardener to A. Bassett, Esq., Stamford Hill; Mr. Rhodes, Mr. Kirtland, Stoke Newington; Mr. Grove, Mile End; Mr. Mortimore; Mr. Parsons, Acton Green, and Mr. McIndoe, were the chief of the other exhibitors. It was a matter of no little difficulty, in several instances, to say from whom particular dishes and even entire collections came, and we can therefore only enumerate a few of the varieties that were best represented. These were—*Blenheim Pippin*, very large and fine; *Fearn's Pippin*, finely coloured; *Cox's Orange Pippin*, *Court-Pendu-Plat*, *Adams's Pearmain*, *King of the Pippins*, *Golden Reinette*, and *Beachamwell*; and among kitchen Apples—*Alfriston*, *Blenheim Pippin*, *Hanwell Souring*, *Beauty of Kent*, *Dumelow's Seedling*; *Reinette du Canada*, *Dutch Mignonne*, and *Holland Pippin*, from Mr. Newton, very large and fine; *Alexander Beauty of Kent*, and *Gloria Mundi*. *Alfriston*, *Alexander*, and *Dumelow's Seedling*, from Mr. Baker, were also fine; and many of the above kinds, and some others, were highly deserving of notice in several collections.

Pears consisted of *Forelle*, beautifully coloured; *Joséphine de Malines*, *Prince Albert*, *Passe Colmar*, and *Beurré Diel*, fine, and *Easter Beurré*, from Mr. Keeler, Woodhouse, Dulwich; the two last named, *Winter Nelis*, *Haeon's Incomparable*, and *Glon Moreau*, from Mr. Newton, were also very good; *Forelle*, from Mr. Groves, and one or two others, was beautifully coloured; and Mr. Turner, gardener to J. Hill, Esq., Streatham; Mr. Richell, Epsom; Mr. Williams, Bentworth Hall, Alton, and others, had fine examples of *Chautemont*, *Easter Beurré*, *Knights' Monarch*, *Bergamotte d'Esperein*, *Glon Moreau*, *Beurré Clairgeau*, *Ne Plus Mouris*, &c., whilst Mr. Mortimore, gardener to A. Smce, Esq., Carshalton, contributed *Beurré d'Amaulis*, *Beurré Superfin*, *Beurré Prevost*, *Dr. Troussan*, *Joséphine de Malines*, and *Peach*, a showy kind.

Of kitchen Pears there were fine specimens of *Catillae*, also *Verulam*, which is very brilliant in colour when cooked, shown by Mr. Keeler; and the first-named, likewise very fine, came from Mr. Rhodes and Mr. Groves.

In addition to the above, Mr. Turner, of Slough, also contributed



a large collection of Apples and Pears, Coe's Golden Drop Plums, a Capsicum in a pot, bearing pods 6 or 7 inches long by 3 or more across at the widest, and a cluster of Pears, consisting of at least forty fruit. Mr. Williams, Bentworth Hall, sent well-grown Shadlocks, Limes, and Oranges, and some very fine Medlars came from Mr. Hull, gardener to J. Scott, Esq., Blackheath Park, and the same fruit was also shown of good size by some others. There was also a dish or two of Quinces.

MISCELLANEOUS.—Messrs. E. G. Henderson & Son contributed *Anthurium lenconeurum*, *Spharogyne latifolia*, *Cyperus papyrus*, the Sugar Cane, and various other plants with ornamental foliage. Mr. Prestoe, Victoria Park; Mr. Wheeler, gardener to J. Philpott, Esq.; Mr. Rhodes, and Mr. Wilson, gardener to W. Marshall, Esq., Enfield, sent various flowering and ornamental-foliaged plants; and from the last-named came also cut Orchids, including *Cattleya labiata*, *Cypripediums* Stonei, concolor, and Fairriacum, and *Odotoglossum radiatum*, one of Messrs. Low's recent introductions. Messrs. Low exhibited *Calanthes*, *Lælia præstans*, small plants of the brilliant *Sophranitis grandiflora*, &c.; and Mr. Bull the economic plants shown at Kensington, and his new *Aucubas*, some of them in fruit. Mrs. Pellock and other variegated-leaved *Geraniums* were shown by one or two exhibitors; *Ivies*, and 63 dishes of different kinds of Potatoes, by Mr. Shirley Hilberd; and a collection of Gourds, both ornamental and edible, amounting, it was stated, to 1000 in number, by Mr. Young, gardener to R. Barclay, Esq., among which were very large specimens of the Potiron jamme. From Messrs. Sutton & Sons, of Reading, came another large collection of Gourds, also one of Grapes; from Messrs. Catbush, Highgate, Nuneham Park Onion, noticed at page 212; and from Messrs. Barr & Sadgen, and Carter & Co. ornamental plant and Fern cases, in some of which, from Messrs. Carter, marble was used with good effect for the bottom. Several beautiful bouquets were exhibited by Mr. Howard, gardener to J. Brande, Esq. Tobacco tissue, or Tobacco rolled into a thin sheet for fumigating-purposes, was shown by Messrs. Roberts and Sons, of Clerkenwell, and will, doubtless, prove equally convenient with Tobacco paper, and more effective. Lastly, one of Wells's portable ground vineries was shown, together with thirty-one very good bunches of Black Hamburgh, the produce, less five, of the Vine planted therein.

### ENTOMOLOGICAL SOCIETY'S MEETING.

THE November Meeting of the Society was held on the 6th inst.; the President in the chair. The deaths of General Sir J. B. Hearsey (a gentleman who in the midst of arduous military duties had yet found leisure to extend our knowledge of Indian entomology and botany), and Mr. Benckard, who had gone to South America on an entomological excursion, were announced by the President.

Professor Westwood exhibited on behalf of Mr. S. Stone, a specimen of the Death's-head Moth, in which no rudiment of the right antenna existed. The pupa-case was also shown, in which, however, an antenna-case on that side of the body was present in a rudimental state.

Mr. MacLachlan exhibited six bred specimens of *Sterrhia sacaria*, a rare Geometrideous Moth, all of which agreed in being much darker than the usual state of the species; they had been reared by Mr. Helling, on *Polygonum aviculare*; also, a female specimen of the Dragon Fly, *Calepteryx splendens*, the left fore-wing of which was coloured with steel blue as in the male; whilst in the right fore-wing only a few small patches of the same colour were scattered over the surface.

Mr. Ianson exhibited *Myrmedonia plicata*, a new British Beetle, found in the nest of *Tapinoma eraticum*, a species of Ant, at Bourne-mouth, in August last, by Mr. Smith.

Mr. Crotch exhibited three species of Beetles new to this country, *Ægialea rufa*, *Lithocharis maritima*, and *Monotama 4-foveolata*; and Mr. Stevens a collection of insects of the various orders found in Damara Land, South Africa, by Mr. Andersson.

Mr. F. Bond exhibited a new British Moth, *Acidalia manennata*, from the collection of Dr. Knaggs; also, a series of highly magnified photographic representations of minute parasitic insects, executed by Dr. Maddox.

Mr. Hewitson sent some leaves of Oak densely covered with the gall, commonly called Oak spangles; also, some notes on the Indian variety of *Chrysophanus phleas*, resembling a variety of *Chrysophanus virginiae*, from Zermatt, published in the last part of the "Annals" of the French Entomological Society; also, descriptions of a number of new exotic species of Butterflies, belonging to the family Hesperidae.

Mr. Baly read descriptions of twelve new exotic species of plant Beetles, of the family Galeocicidae.

A paper was read by Captain J. Mitchell, Superintendent of the Madras Museum, on the structure of the filament of silk as spun by the common silk caterpillar, which has often been asserted (by Rymer Jones, Dr. Carpenter, &c.), to be composed of a double-twisted thread, but which he had found to consist of two threads laid side by side longitudinally, and fastened together by gum.

A note by Dr. Jordan was read on the acclimatisation of the common Pontia Rape, in North America, during the last two or three years; it being now found plentifully for one hundred miles on each side of the river St. Lawrence, and where there are as many as three broods in a year, not more than eighteen days occurring between the

deposition of the egg and the arrival of the insect at the perfect state in the middle of summer.

Some notes were also read by the Rev. Douglas Timmins, on the advantages of collecting the Lepidoptera of Europe, instead of restricting collections to British species; also, a paper by Mr. David Sharp, on the British species of the Coleopterous genus *Agathidium*.

### GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 8.

I FEEL that it is time I quitted Rome, and yet I linger on; what I have said seems so little and poor, what I have left unsaid so rich and great. Churches, monasteries, palaces, unnoticed by me, rise in numberless pictures to my mind's eye, in which the past and present are mingled together, and they seem to take voice and ask, Why are we forgotten? Now I am in the Forum Romanum listening to the thrilling eloquence of Cicero; or with wonder, open-mouthed, am watching Cæsar's first and greatest triumph, when, followed by a countless host of soldiers, people, and captives—of whom, perchance, a few poor Britons formed a part—he ascended the steps of the Capitol on his knees, between forty elephants bearing lights, while the common people were feasting at 22,000 tables placed in the streets. And now I am standing beneath the huge statue of Pompey, once red with the life blood of this same Cæsar; the voices that once proclaimed him a demi-god now raised in hoarse cries of "Perish the traitor to liberty!" Or it is evening, and I am ascending the wide flight of steps in the Piazza di Spagna, and entering the little church of La Trinità de Monti, where, in the fading light of the setting sun, the nuns of the Sacré Cœur sing sweet vesper hymns to the Light of Light. Or I am in the Pantheon hanging a wreath about Raphael's tomb, and wandering from shrine to shrine, now dedicated to the worship of Him who is God indeed, instead of the many gods in whose honour the altars were raised; for this nobly-proportioned edifice was erected by Agrippa, B.C. 27, and passed with but little alteration from a pagan to a Christian temple in the year 608.

That vision passes, and another takes its place. I am standing amidst the Cypress trees on the Monte Mario watching the Easter fireworks, which convert the entire population of Rome into a population of children, laughing, talking, and even screaming with delight, as each fresh artistic representation bursts into light, and the lower heavens glisten with a thousand meteors sent there by man's hand. Again the scene changes, and from the noise and bustle of the Roman streets I pass to the quiet studio of the great Christian painter Overbeck, and listen with reverent attention as the old man, with gentle voice and winning smile, gives his beautiful explanations of his yet more beautiful pictures, both speaking of something better and greater than the noisy world outside. My eyes are dim as I watch the painter sitting amongst his children, the creations of the intellect so soon to pass away to the Great Intelligence from whence it came.

Some one has said that "Architecture is like frozen music." Is it some thought akin to that that makes me never remember Overbeck without connecting him in some sort with the beauty and fragrance of flowers? The transition seems slight that transports me from the quiet studio back to my well-nigh forgotten theme of flowers. I seem to be once more gazing on the fair bouquets that all winter long are to be seen in the greatest profusion arranged on tables in the Via Condotti or the Piazza di Spagna. All day long the arranging of bouquets seems going on, and the flowers seem always fresh, the purple Violets still sweet, the white Camellias and Roses still fair; yet very few people ever seemed to do more than admire their beauty. Where the flowers came from was always a mystery to me till I took the best means of solving a mystery, and asked for information, when I was answered, "There are no nursery gardens as in England; but all these flowers come from the gardens of the Roman nobility, the gardeners sending them early in the morning.

The Romans have at all times been supposed to possess a very limited flora, so I may be excused if my actual floral gleanings in the Eternal City were small. Their principal garden flowers now, as in days gone by, seem to be Violets and Roses. They have now, as they had then, the Crocus, Narcissus, Lily, Gladiolus, Iris, and Poppy; while flowers, and plants, and climbing evergreens are still to be seen decorating the flat roofs and the windows of the houses. It does not appear that much alteration has taken place even in the laying

out of their gardens and pleasure grounds; for now, as then, the most striking feature in a Roman garden is the lines of large trees planted in regular order, with closely clipped hedges of Yew and Cypress, formed into walks, with statues, pyramids, fountains, and summer-houses interspersed.

A Roman garden at first appears like a very wilderness, beautiful indeed, yet still a wilderness; but after a time the eye becomes accustomed to the style, and is able to appreciate its fitness to the climate and to the habits of the people. Passive enjoyment is not in the nature of Italians; they always want to embody their thoughts, and with the lower minds talking takes the place of that action which in the higher shows itself in some noble work of art. The long alleys and walks suit the talkers; and alas! the day for that higher development seems clouded over for Italy, and the names of foreigners—Story, Gilson, Overbeck, and Platzen—occupy the places once accorded only to Italian Michael Angelos or Raphaels. The skill of the ancient "topiarius," or ornamental gardener, used principally to be exerted in the cutting and twisting the shrubs into the figures of animals, &c., such as we may sometimes still see in the old-fashioned manor-house gardens in England. Specimens of this peculiar art are frequently to be met with in ancient paintings and in the bas-reliefs. Modern Rome is like a broken mosaic: it requires labour, but that labour of the most delightful kind, to gather up the fragments of precious stones here and there, out of which to restore the perfect picture of what ancient Rome was.

Before I take my reluctant farewell I must tell a pretty story that was told me about a wild flower. I may not remember it perfectly, but I will try my best. Beyond the Porta Pia, on the Campagna, a botanist went wandering in search of flowers. After a while he came on one peeping up from the grass that he had never met with before excepting when growing on a wall. Some theory or other was started, so he gathered the flowers and sent them to the Linnean Society. They, too, were astonished, and sent them back to some of their learned members then in Rome. They went to the spot, found the flowers, and dug for their roots, when they found traces of an ancient wall. Then archaeology put in a word. It was conjectured that long years ago some great man had been buried in that locality and the precise spot forgotten. The little flower spoke again, and guided by her voice they dug away, and discovered the ancient sarcophagus and the traces of a basilica, the tiny flower spreading all round where the walls lay.

As my first greeting on entering Rome was from the English church, my last greeting on leaving shall be to her. Amidst all the attractive dissipation surrounding the stranger in Rome there is a quiet witness for the truth daily pleading for recognition, and most touching in their pure simplicity do the English services seem to English hearts after the gaudy decorations of the Romish ritual. The little church is always crowded. One congregation is scarcely out ere another takes its place. Many have to go away for want of room; and when the hymns are sung it is like the voice of many waters ascending to the Throne.

"Where Sandalphon, the Angel of Glory,  
Sandalphon, the Angel of Prayer,  
Is gathering the prayers as he stands,  
And they change into flowers in his hands,  
Into garlands of purple and red;  
And beneath the great arch of the portal,  
Through the streets of the City Immortal,  
Is wafted the fragrance they shed."

And so I quitted Rome.

The railway route from Rome to Civita Vecchia has left but one impression on my mind, and that is Roses—Roses everywhere, clinging to Vines, to trelliswork, to hedges, to houses—Roses ready for imaginary crowns for imaginary victors, when Rome, emerging from ancient and modern trammels, shall once more shine out with radiance worthy the Eternal City. Civita Vecchia has not much to recommend it; it savours on all sides of quarantine, and the people and sailors have a watchful look as if on the alert for fevers.

Early morning found us once more on the road, the noisy peremptory railway having given way to vetturina, and the shrill whistle to the driver's whip flourishing over the horses' heads in a frantic whirl of reverberating cracks. Now I could look at the dear country in peace; now I could walk up the hills gathering wild flowers, or have my lap filled with blossoms put through the window by the courier. From Rome to La Nunziatella I reaped a perfect harvest. *Asphodelus microcarpus* assumed shrub-like proportions; we cut down quite branches of it, only to let them fade away in the hot sun.

The temptation was so great I could not resist making up one lovely bouquet after another, intermixing the white *Asphodel* with the brilliant blue of the *Anchusa officinalis* and the rich amber of the *Cerinthe aspera*, all of which grew in the greatest profusion. The *Cerinthe* of the Campagna seemed different from the Roman one. The leaves were cordate instead of ovate; and though in both cases they were stem-clasping, yet in the Roman *Cerinthe* this was not so observable, because the leaves were fewer and narrower at the base, and embraced the stem without opposition. I am inclined to think the Campagna *Cerinthe* may be *C. major*. In both specimens the leaves are fringed with sharp white teeth; and the same sort of teeth or tubercular hairs are spotted over one side of the leaf, the reverse side being covered with raised white spots. The whole plant is exceedingly striking, and would be a handsome addition to English flower-borders. By-and-by the *Cerinthe* and *Anchusa* would give place to the *Roseda phytolium*, like our garden *Mignonette*, only more white and not so sweet; the little *Narcissus intermedius*; the brilliant *Lithospermum purpureo-ceruleum*, which is said to grow at Mary Church in Devonshire; with the *Helianthemum vulgare guttatum*, and a lovely white *Cistus*, the name of which I do not know. Then the last bouquet would be thrown away, and there would be a *Teucrium* of brightest blue, a brickdust-coloured *Vetch* (*Lathyrus erythrinus*), *Ornithopus scorpioides*, with its very big toe in the centre of the ternate leaflets, together with *Erodiums* and a red *Convolvulus*.

These and a grand *Orchis* (*pyramidalis*), gladdened our route to Nunziatella. But even vetturina travelling has its drawbacks. If it were all up-hill it would be pleasant enough; but down hill, and level ground put botany to flight, and a passing glance and a cry of "Oh, look there!" was all I could give to many a rare bloom I longed to possess. Wherever it was practicable I grubbed up roots and bulbs, to the intense amusement of the contadini, who looked on, grinning approval of the "Inghlesi" who had such a strange fancy for weeds. I have promising plants of *Anemone hortensis* both from seed and bulb, *Grape Hyacinths*, and *Asphodels*. I have just planted my *Cyclamens*, which are not yet above ground.

On our way to Nunziatella we passed the Papal frontier. The invisible barrier had scarcely been gone over when I saw a cap thrown in the air, and heard a joyful cry of "Viva Vittore Emanuele!" I put my head out of the window and cried "Viva" too; and had it not been for the carriage roof and luggage I do believe my bonnet would have followed the "cap of liberty," such a relief was it to feel that one might growl in peace without a spy at one's elbows, or the vision of a passport before one's eyes.

While waiting for the train at Nunziatella I had an hour's flower-hunting in the fields around. The prettiest specimens I found were those of the *Vetch* tribe—one of pale yellow, *Vicia lutea*; one of blue, *Vicia uniflora*; one of red, *V. angustifolia*; and one of dark red, almost black, which I suppose was *Orobanchis niger*. There were some others, but I only kept a few; yet they were all beautiful from the tender grace of their delicate foliage. The total absence of any Ferns on the entire route was most remarkable. I felt all day that something was wanting to complete my satisfaction; it was as though I missed the kindly greeting of old friends amidst a bevy of passing acquaintances. At night we were in Florence.—F.L.F. FEMINA.

## ARCHERFIELD.

(Continued from page 401.)

THE bothouses occupying the north wall of the kitchen garden, it has been already stated, are of unequal width, the central houses being wider than those at the ends, and the border in front of the range has been made to correspond, the central portion of the border extending 8 feet, or more, farther into the garden than the ends. The continuity of the walk in front of the range is consequently broken to suit the outline of the border, and the latter being necessarily divided into three, the opportunity is afforded of planting each part separately. This has been done in a manner differing in many respects from the usual practice, Mr. Thomson being an advocate for what has been designated panel planting, a plan which gives scope for great variety. The border in front of the houses, as well as that on the opposite side of the walk, has been so treated this year with perfect success. Perhaps the only fault that any one would be disposed to find is the planting such heavy crops of flowering plants on Vine-borders. The good condition of the



Grapes, however, proves that they lack nothing to make them perfect, and yet the lines of bedding plants form a dense mass up to within 4 feet of the wall of the houses. The projecting central part of the border, 100 or 150 feet long, is planted differently from the two ends, both of which are of about the same length. The border next the cropped part of the garden is 18 feet wide, the portion planted next the house is not quite so wide, and the whole presented a mass of bloom rarely equalled anywhere, and in no instance, that I am aware of, has it been excelled.

The arrangement was as follows :—

- Border A.—1st row next Box edging, *Geranium Mrs. Pollock*.  
 2nd row.—*Lobelia speciosa*.  
 3rd row.—*Geranium Stella variegata*, a silver-edged variety of that popular *Geranium*, raised by Mr. Thomson about three years ago.  
 4th row.—*Oxalis*, with dark foliage, the specific name of this I do not know, but the plant is dwarf, quite hardy, and in colour most resembles the *Amaranthus melancholicus ruber*.  
 5th row.—This was broken by conical masses of a bright Scarlet *Geranium* planted in raised tubs about 12 feet apart, with the base of the tub hidden by masses of *Geranium Paul L'Abbé*, planted round it, and a double line of the same *Geranium* between each mound.  
 Border B.—1st row, beginning next the edge of the walk, *Lobelia Paxtoniana*, two lines.  
 2nd row.—*Geranium Mary Ann*, a silver-edged variety, one row.  
 3rd row.—*Verbena venosa* in a mass about 5 feet wide, with patches of a yellow *Calceolaria* 2½ feet in diameter, alternating with like patches of *Geranium Vivid* (scarlet), about 12 feet apart.  
 4th row.—*Geranium Bijon*, a silver-edged variety.

5th row.—*Dahlia Prince Arthur*, a good crimson variety, dwarf, alternating with *Tritoma uvaria*, the latter growing most luxuriantly.

Border C.—1st row or edging, next the walk, composed of *Gazania splendens* and blue *Lobelia*, mixed.

2nd row or panel of *Verbena Purple King*, about 3 feet wide, with tufts of *Centaurea candidissima* in the centre, and 15 feet apart.

3rd row.—Double line of Scarlet *Geranium*, having tufts every 15 feet, alternating with those in the preceding row, and composed of a large single plant of *Trentham Rose Geranium*, surrounded with *Christine*. These tufts were elevated considerably above the other plants, and being covered with bloom looked extremely well. A vacant space behind this row was left to afford access to the fronts of the houses, and also, perhaps, for the benefit of the Vines, &c.

Border D.—1st row next the walk, *Arabis lucida anreo-variegata*.

2nd row.—*Lobelia speciosa*, in panels 3 feet wide, with single plants of *Polemonium cœruleum variegatum*, of which something will be said hereafter, planted 8 feet apart in the centre of the panel.

3rd row.—*Calceolaria canariensis*.

4th row.—*Verbena Purple King*.

5th row.—*Geranium Christine*.

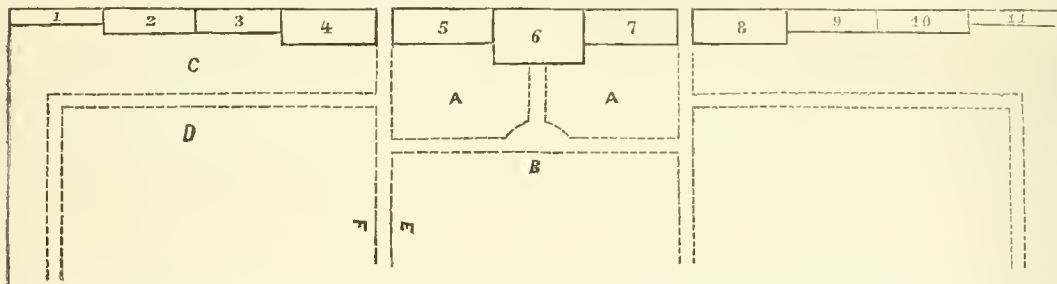
6th.—*Geranium Stella*, in panel 7 feet wide, with circles of *Centaurea* about 3 feet in diameter raised on pebbles every 10 feet, which had a rich effect.

7th row.—*Geranium Christine*.

8th *Dahlia Zehnda*, purple.

9th row.—Dwarf white *Dahlia*, just sufficiently tall to be seen distinctly above the last row. Plants of *Humea elegans* were interspersed in this row at regular intervals.

KITCHEN GARDEN AND FORCING-HOUSES AT ARCHERFIELD.



I ought to state that the width of this border, D, was 18 feet, and being composed of both broad and narrow lines it looked remarkably well. The broad mass of *Geranium Stella*, 7 feet wide, with masses of *Centaurea* rising above it at regular intervals, with the single line of *Christine* at each side of it, formed an excellent picture of itself, while a similar panel of *Lobelia* nearer the front, with corresponding plants of *Polemonium cœruleum variegatum* at regular intervals, had a rich effect, difficult to describe, and certainly still more so to excel. The whole of the plants were in excellent bloom, and looked very brilliant and rich.

The corresponding borders to C and D at the opposite end of the line of hothouses were planted in much the same way, the outer border having the single line, intervening between the broad panel, of the most brilliant colouring, enlivened by corresponding tufts, or rather gems, set at regular distances. I believe there was a difference in the materials used, but the design was the same.

We now come to the cross borders, one or rather both of which face the most usual entrance to the garden, and their appearance was not less striking than those above described. There being much similarity in the planting of both of the borders facing the cross walks, a description of one will suffice.

Border E.—1st row next Box edging, *Cerastium tomentosum*.

2nd row.—*Verbena Crimson King*, a seedling of Mr. Thomson's, having all the good properties of its purple namesake, and it is not too much to predict that it will play an important part in general flower gardening, when it shall have become sufficiently known and distributed. I understand that it will be sent out next year by an Edinburgh nurseryman. Too much cannot well be said in its favour; its habit is upright, not quite so tall, perhaps, as *Purple King*; the colour is a bright crimson, with a small lemon eye, and it appears to flower abundantly, and to keep up a good succession of bloom.

3rd row.—*Geranium Flower of Spring*, silver-edged.

4th row.—A large variety of *Stock*, somewhat branched, though not so much so as the kind commonly called the Queen *Stock*. The flowers were mostly double, and looked well.

5th row.—Dwarf Apple trees at regular distances of 20 feet, alternating with standard Roses, and the spaces between them were occupied with *Mignonette*.

Border F, on the opposite side to that last described, was planted in the same way. The line of *Verbena Crimson King*, having lines of white-leaved plants on each side of it, was very conspicuous.—J. ROBSON.  
 (To be continued.)

## WINTER FLOWER GARDEN.

MUCH has been said, and much remains to be said, about winter and spring flower gardening; every succeeding generation wishes to improve on the doings of the past, and my

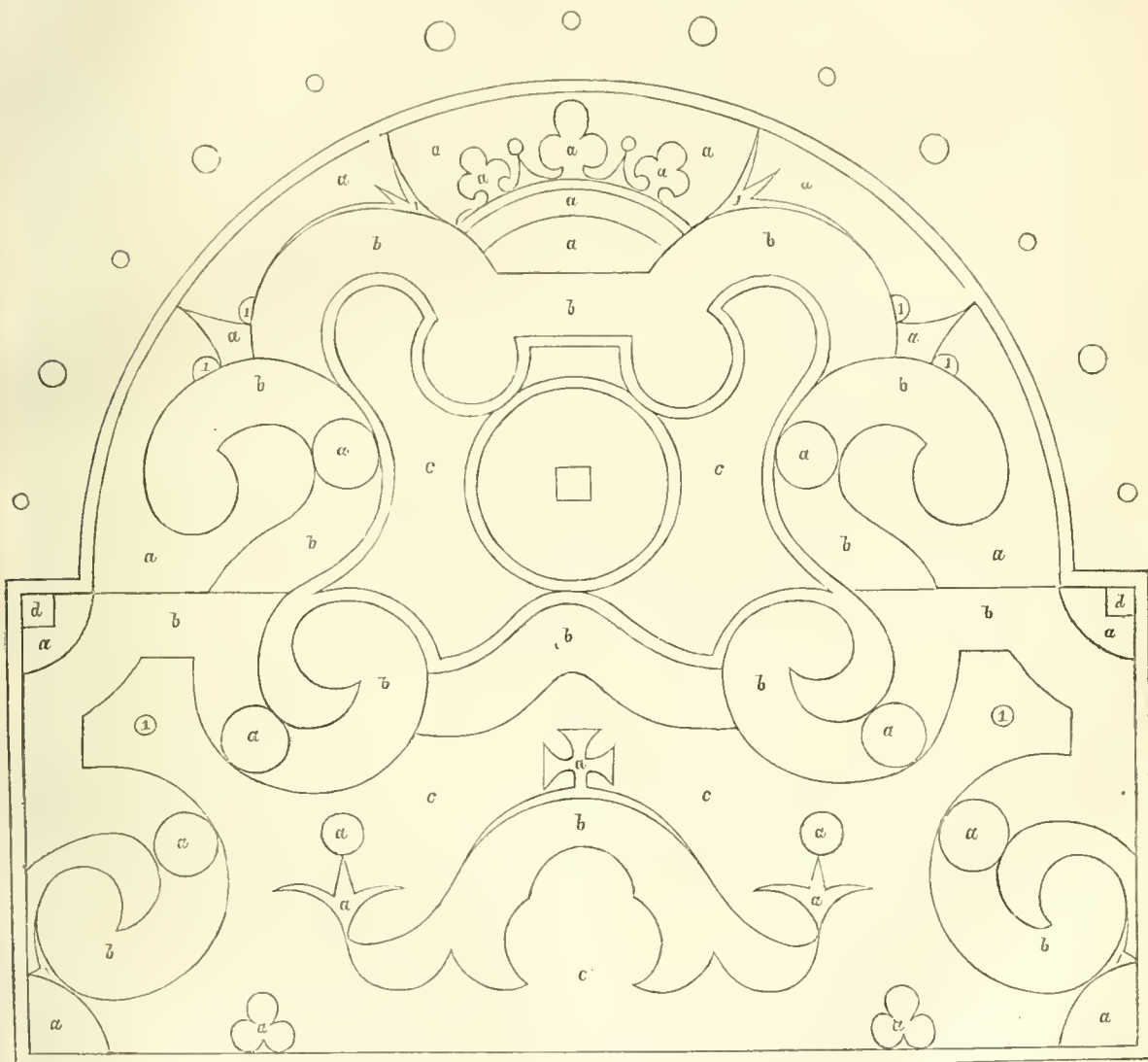
object at present is to write a few words in favour of a system that deserves more attention.

Whenever the flower garden is mentioned, the idea is at once

conveyed of a nicely kept piece of ground, near the residence, and disposed to the best advantage, so as to be pleasing to the eye and refreshing to the mind. To have this, it is necessary to adhere to some mode of laying out the ground, so as to give it, if possible, a diversity of appearance. There are many ways of doing this, but it is unnecessary for me at present to enter into details respecting each; but, whatever mode be adopted, the garden should be complete in itself, and arranged so as to have suitable places to receive different flowering plants and bulbs all the year. Plants and bulbs should have each their own place independent of the other, and by giving them this we would avoid any clashing between the two classes of plants, for bulbs are often taken out of the ground before they have properly matured their growth, in order that they may be replaced by bedding plants in May.

Now, I will take May to be the first flower gardening month in summer; we in general bed out in that month, after that we nurse and coax the plants for five or six months, then comes autumn, and their beauty fades away. We have then to clear away the plants which we loved so much, and dress and clean the beds, which, nine times out of ten, are left empty until the May of the following year, with the exception, perhaps, of a few bulbs in a bed or border in front of the windows.

It should be the same with the flower garden as with the drawing-room—that is, always fit to be looked at in the depth of winter as well as in the height of summer, no matter with what materials it is furnished. In order to have such an interesting garden, my notion is that a nice pattern laid with Box is the most eligible, as the beds can be of any width, and all in a group with gravel between them. There can also be alloys and



other places for bulbs, permanent plants, and different coloured materials, of which I can recommend three—viz., red, white, and black—burnt flintstone for white, coals for black, and red brick ends for red. They are the most distinct materials I know of for giving effect.

To show more clearly what I have said I send a copy of a flower garden that I recently laid out here, and which is much admired by all who have seen it. It will suffice to say that the beds are at present planted with *Alyssum saxatile*, *Arabis*, *Pansies*, *Stachys lanata*, *Crastium tomentosum*, and a

few dwarf variegated *Holly* plants introduced to give effect: also in the outside line of Box next to the grass edge, there are some nice Box plants planted 8 feet apart, which help to define the figure very much. The small circles outside the semicircle, or the top of the figure, represent plants of *Aucuba* and *Thuja* Lebboi alternately, and which contrast well with each other. *a* Indicates the places covered with flints, coals, and bricks, these materials being arranged so as to produce the best effect. Were bulbs planted in these places there would be a grand display in spring. *b* Indicates the beds, and *c* the common gravel.



The circle in the centre is grass, and the square in the circle represents a cast-iron stand, with a glass globe placed on the top of it. It is much admired by all who have seen it, all the surrounding scenery is reflected in it. *dd* Are two vases 5 feet high. The space between the two outside lines of a Box is entirely covered with red bricks broken in small pieces, and the places marked 1 are Box; also, the two figures between the trefoils, *aa*, at the top of the engraving.—M. O'DONNELL.

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

**IONOPSIS PANICULATA** (Panicked Ionopsis).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Finest of the genus. Imported by Messrs. Low & Co., of Clapton, from Brazil. Flowers white, with purple blotch, blooming in October.—(*Bot. Mag.*, t. 5541.)

**CALATHEA TUBISPATHA** (Tubular-spathed Calathea).—*Nat. ord.*, Marantaceæ. *Linn.*, Monandria Monogynia. Imported by Mr. Veitch, Chelsea, from South America. Leaves blotched symmetrically with black.—(*Ibid.*, t. 5542.)

**PACHYPODIUM SUCCULENTUM** (Succulent Pachypodium).—*Nat. ord.*, Apocynaceæ. *Linn.*, Pentandria Monogynia. Native of South Africa. Same as *P. tuberosum* and *tomentosum* of some botanists. Flowers white stained with pink.—(*Ibid.*, t. 5543.)

**ABRONIA FRAGRANS** (Fragrant Abronia).—*Nat. ord.*, Nyctagineæ. *Linn.*, Pentandria Monogynia. Imported by Mr. Thompson, Ipswich. Native of sand hills near the Missouri, and the eastern flank of the Rocky Mountains. Flowers white.—(*Ibid.*, t. 5544.)

**BEGONIA PEARCEI** (Mr. Pearce's Begonia).—*Nat. ord.*, Begoniaceæ. *Linn.*, Monœcia Polyandria. Introduced from La Paz, by Mr. Veitch. Flowers bright yellow, contrasting well with the foliage, which is dark velvety-green above, and dull red beneath.—(*Ibid.*, t. 5545.)

**ZONALE GERANIUM Wiltshire Lass.**—Pink, with lower half of two upper petals white. Exhibited by Mr. Keynes, of Salisbury, and declared by the Royal Horticultural Society's Floral Committee to be "one of the finest of the pink-flowered bedding varieties yet seen."—(*Floral Mag.*, pl. 265.)

**GLADIOLUS Sir James Clark.**—Raised by Mr. Standish. Salmon rose, scarlet-feathered in lower petals, and scarlet spot in the throat.—(*Ibid.*, pl. 266.)

**BIGNONIA ARGYREA VIOLESCENS.**—Stove climber introduced by M. Linden, of Brussels, from South America. Leaves very beautiful, purplish green when young, midrib and veins bordered with purplish pink; when matured bright green, marbled with white, and purplish crimson beneath.—(*Ibid.*, pl. 267.)

**AZALEA Princess Alexandra.**—Raised by Messrs. Ivery and Son, Dorking Nursery. White, striped and spotted with pink.—(*Ibid.*, pl. 268.)

**NARCISSUS JUNCIFOLIUS.**—"A beautiful dwarf-growing hardy bulb, from stony pastures of the Pyrenees, having neat rush-like foliage, and comparatively large bright yellow flowers, from one to three on a scape, and remarkably showy." Such is the description of this plant published in the Report of the May Meeting of the Royal Horticultural Society, at which it was exhibited by Messrs. Backhouse & Son, of York, to whom we are indebted for the opportunity of figuring it. The plant, as will be seen, well merits all that is said in its favour.—(*Florist and Pomologist*, No. 47, 233.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

WHEELING out manure, composts, earths, &c., trenching, draining, making new walks, and repairing old ones, are amongst the principal operations at the present season in this department. Always make choice of suitable weather for performing each, with a view to cleanliness and good order. *Asparagus*, another bed should be prepared in the end of the week if a succession is required. *Celery*, it is necessary to take advantage of every favourable opportunity to earth-up all that requires it; rather let it remain as it is than attempt to do this while wet, as the stalks will afterwards rot in a very short time. *Cucumbers* will require constant attention in stopping and tying to the trellis. During very dull weather the plants should not be excited to so great a degree by heat and water as in clear weather, neither should they be allowed to swell off so many fruit at one time. *Herb-beds*, if they are not

yet cleaned and done up for the winter, should be attended to without delay; a slight coat of very rotten dung should be laid on them for the purpose of protecting the roots from frost, and to enrich the soil. *Lettuce*, the Cabbage varieties planted in frames, intended for winter use, will not require much air if the soil is light and dry; should they require a little water, give it to each plant from a watering-pot without a rose. Never expose the plants to heavy rains. *Sea-kale*, a little leaf mould, tan, or cinder-dust should be laid over the crowns of the plants, pots may then be put over a portion of the plantation, and be covered with leaves as these are collected; if required for use in a short time, stable-dung to be used. *Spinach*, in gathering the leaves the beds to be trodden as little as possible, as the growth is injured by having the soil consolidated about the roots. If sufficiently light and dry the surface of the soil to be loosened. The heavy autumn rains, probably, retarded the progress of trenching and other ground operations, but the present weather offers abundant opportunity for continuing such works.

### FRUIT GARDEN.

Continue to prepare for fruit-tree planting by draining, trenching, and pulverising the soil, and after planting stake, tie, and mulch the trees securely in good time. Too little importance is in general attached to mulching; for whether we consider the immense utility of shutting in, or rather arresting the departure of the remaining ground heat of the past summer, or imparting nutritious principles to the soil for the ensuing year, the operation is one not to be neglected. It ought to be well considered that the soil has nothing in the way of temperature to gain between this period and the end of February, but, on the contrary, a progressive loss must ensue for the next two months at least, unless we resort to the practice of mulching. Clear away dead leaves from the wall trees, and remove the green fruit from the Figs. The established strong-growing fruit trees that are tardy of producing fruit should undergo the operation of root-pruning. This must be performed according to circumstances. If the trees are planted too deep, or the soil has been raised above or about them since planting, by all means fork the roots out carefully, and plant them again with care on the surface, spreading them out judiciously, and then mulch. If trees to be operated upon are planted high and dry, fork about them at a reasonable distance, and prune back the main or strongest roots as you discover them. Raspberry plantations may be cleared of the dead canes and superfluous wood; the suckers to be taken off, and the strongest should be at once planted for a succession.

### FLOWER GARDEN.

Alterations, planting, &c., will be carried on this autumn with much comfort, as far as the weather is concerned, and those who have employed additional labour to carry out these affairs will have little to regret in the spring. All tender or half-hardy shrubs should have some protection planned forthwith, and especially the tender kinds of Roses. Standards of the latter may have a bunch of dry moss, a wisp of hay or straw, or some dried fern, bound round the head, and the whole well fastened to a stake. A fortnight's really fine weather in November, while it seems to prolong the autumn, by permitting us the enjoyment of the fading glories of vegetation, affords the always-appreciated opportunity of proceeding with the various important operations connected with the garden. A little care may preserve Chrysanthemums, particularly those trained against a wall, for some time; the simple protection of a net will ward off the excess of frost likely to injure them. Take up and store *Marvel of Peru*, *Dahlias*, and *Salvia patens* if not already done, and finish planting bulbs and Anemones. If the beds have not been yet filled with spring-flowering plants, we would suggest to plant some beds with an edging of Crocuses, followed by Hepaticas, double Primroses, Scillas, Hyacinths, and Narcissus in successive rows. If a portion of the garden is devoted permanently to plants calculated to render it gay at a cheerless season, plant the bright-berried *Pernettyas*, hardy *Ericas*, *Daphne*, the winter-blooming *Jasminum*, the old *Sanguinaria canadensis*, *Adonis vernalis*, Winter Hellebore, *Anemone apennina*, *Myosotis intermedia*, the charming little *Veronica alpestris*, which covers the ground with its green compact foliage like a carpet, the elegant little *Saxifragas oppositifolia major* and *minor*, *Anubetia deltoidea*, *Orobis vernus*, and *Arabis verna*. These, with bulbs, render a garden gay at a very early season.

### CONSERVATORY AND GREENHOUSE.

Every decaying leaf should now be instantly removed from these houses, for at this season when the plants are in high

health, covered with dark green foliage, and bending beneath gorgeous flowers, the contrast is more delightful than at any other period, and whilst the wreck outside is daily increasing, the art of gardening becomes more manifest within. We need scarcely urge thorough cleanliness in all other points. Drip must be studiously avoided in these structures, not only on account of the flowers, but the comfort of the proprietors. The stock of plants to bloom at Christmas, consisting partly of stove plants grown for that purpose, and partly of forced bulbs and shrubs, should now receive some attention, particularly the former, which should be undergoing a slight amount of forcing to bring them into bloom at that time. Chinese Azaleas and Oranges may be assisted by a little extra heat, being careful, however, to apply it gradually. At the same time, if a forcing-house is at command, a portion of the stock of Roses, Lilacs, Syringas, Deutzias, and other hardy shrubs from the reserve pit may be placed in the cool end of it, or in a light situation in an early vinery or Peach-house; if they can be afforded a slight bottom heat all the better. A few of the more easily forced American plants, including some of the earliest-flowering *Rhododendrons* should be added, they will greatly enhance the display in January. Bring forward Hyacinths and early Tulips in a gentle bottom heat. Double Roman Narcissus, Crocuses, Neapolitan Violets, Mignonette, and Cyclamens bloom early without much forcing, and answer best placed on shelves at the back of vineries to catch every ray of light and to insure them from damp.—W. KEANE.

### DOINGS OF THE LAST WEEK.

GENERAL work very much the same as in previous weeks, being regulated by the weather. The frosty mornings, heavy rains, and high winds promise to bring down the leaves from deciduous trees sooner than we expected. The same causes have taken away the beauty of the flower-beds, though as yet suffering little from frost; and the clearing them off, owing to the great vigour and thickness of the plants, has been attended with extra labour. To our mind the beauty of the flower garden is on the wane when the tree leaves begin to fall at all freely; but in moister climates, as in Ireland, not only do the trees retain their foliage longer, but the flower-beds also continue longer in full bloom. From some notes made at Woodstock in Ireland a week ago we learn that the flowers looked nearly as well then as in summer; masses of Sweet Peas, *Anemone japonica*, scarlet Pentstemons, *Salvia fulgens*, scarlet Lobelias, Phloxes, Fuchsias, *Veronica Andersonii*, *V. virgata*, Tagetes, Dahlias, Hydrangeas, &c., being still very fine. Mr. McDonald prefers the Golden Chain to all other of the yellow-leaved Geraniums, and finds that Cloth of Gold flourishes only when treated to comparative shade and supplied with rich leaf mould.

#### KITCHEN GARDEN.

Gave abundance of air, but kept out the rains from Cauliflower, Endive, Lettuce, &c., under protection. Took up some Rhubarb and Sea-kale to put in the Mushroom-house. Made preparations for sowing Radishes on a slight hotbed, using fresh sandy loam; and for the second bed or piece in the Mushroom-house, chopped up some dry litter and straw to mix with the dung. As it was rather wet for our purpose, mixed also a little dry chaff with it, but we like the chopped straw best. It takes a long time for damp droppings and dung to be dried sufficiently in a shed at this season. When mixed in a heap not too large, with a little chopped dry litter, the fermentation produces dryness; and though we know that the fermentation thus encouraged deprives the heap of a portion of its enriching qualities, yet we submit to this cheerfully in order to have the dung in a more suitable state as respects dryness. When over-moist the spawn will be wasted and run to nothing. It will always run best when the material is dryish rather than wet; but if all the bed is dry the Mushrooms will be poor.

#### FRUIT GARDEN.

The wet and frost have finished the crop of out-door Strawberries, but a lot of Black Prince potted for forcing having shown flower rather early, were placed in a pit where there is a little dry heat, and have furnished several nice small dishes of good-flavoured fruit. Some twenty years ago we had good crops of the old Roseberry in November and December, treated in the same way—that is, the plants showed trusses late in autumn, and were slightly encouraged with a little dry heat, not forced with a high temperature, and there being a good deal of sun in these usually dark months, the flavour was better than Straw-

berries generally possess in February, and the beginning of March. Plants out of doors in pots were protected with a little straw placed over them in frosty nights, but as yet they have not needed it much. As soon as possible we will place them under protection of some kind. Many failures are the consequence of the soil being alternately soaked and frosted in pots exposed, as the bare pot cools the soil inside to a great extent in a frosty night, and thus injures roots and incipient flower-buds, when both would be quite safe if the plants were growing in the ground in the usual way. We have still a number of plants in small pots that were not repotted, and these we shall plant as soon as possible, in a border with rich loam round them, placing them about 8 inches apart, and lift and repot, or place in a bed under glass, after March and April. They will do well after that time. If potted now they would be of no use for early forcing, but if potted and plunged they would do very well after the middle of March, as by that time the roots would be round the inside of the pots.

Apples and Pears in fruit-rooms want looking over now frequently, and when all are sound and the weather at all moderate, a very little air should be left on night and day, and not a great quantity at any time, as if the air is moist too much will damp the fruit, and if dry it will cause them to shrivel. We shall proceed with pruning Vines in the earlier houses as soon as we can find time. The earliest, in a pit, have been pruned some time. As soon as we can we will also proceed with Apple and Pear tree pruning, to finish the nipping and stopping in summer; but the putting away Geraniums, and even rough-cleaning pleasure grounds, will require all our labour-power for some time when the weather is sufficiently favourable for out-door work. Those who begin vineries and Peach-houses now, should commence with a low temperature and raise it gradually, being satisfied with from 55° to 60° in the vinery, in the fourth or fifth week after commencing at 45°, and never going above 60° until all the buds are broken, and at least 1 inch in length. Commencing with 45° in the Peach-house, 55° will be hot enough with artificial heat until the trees are in bloom, and even then 55° will be enough at night, raising it to 60° and 65° during the day with air, and 10° more from sunshine; but the increase from sunshine should rise gradually with air on, and never with the house shut in the early part of the day.

Figs.—We mentioned clearing off all our Figs from the little Fig-house or pit, and also taking off all the leaves at the same time, in order to cause the plants to rest. "FRUTEX" finds fault with our treatment and says, "Her Figs were very good on the 10th of November and likely to continue so, and she could not see why, if she chose, by extra heat, she should not have Figs all the winter, and thus make the Fig an evergreen and an everbearer." Nor do we know the least reason why she should not do so, and carry out her proposed plans, and for encouragement we would say, that we have done so, especially with Figs in pots; but, on the other hand, justice and honour compel us to state, that though we thus had a Fig at times all the year through, we never had many at any one time, and so far as we are concerned, we never thought the fruit worth more than for looking at from November to March. That is no reason why those who are willing to give the necessary heat should not have them at Christmas and the new year if they like. We would ourselves take as kindly to a raw Turnip, but we find no fault with those whose tastes are different from ours. We have also found, that to have a good crop in May and June the plants should not bear, at the farthest, beyond the end of October. It is scarcely possible to obtain every advantage from any one system of management. Of course, as we intend merely to keep out frost during the winter, it was of less use to keep the hundreds of young fruit, so all above the size of small Pears were cut off along with the leaves. Cutting off is better than pulling off, as if something like the eighth of an inch is left of the stalk of the fruit, a young one will often form at its base.

Out of doors a few Fig trees have done very well this season; but we ripened only two or three of the second crop on the current season's growth, though many attained a large green size, and so far just wasted the strength of the tree unnecessarily. But for the trouble and the time it would take, it generally would be better to cut off when very young every fruit that shows on the current year's wood before the end of September. After that they may be small enough to stand the winter without protection. We presume that the wonderful season is to be thanked for a second crop of Figs out of doors, except in the most favourable circumstances. We have never noticed such a thing, except as an out-of-the-way curiosity.



Out of doors, it is generally the small fruit that stand the winter, or those that show at the points early in spring, that ripen in the following autumn.

#### ORNAMENTAL DEPARTMENT.

**Wormcasts on Lawns.**—We have just managed to keep tidy near the mansion. Care should be taken that the first look-out should not be associated with the morbid and the melancholy. There the broom and the roller must frequently be used for the lawn, as after the heavy rains worms are coming to the surface and throwing up their earthcasts. In small places these heaps may be prevented by watering with clear lime water. The best way to use the water is to roll well a day or two before, and as soon as the worms have opened their fresh holes to give the ground a good soaking, when the water at once runs down the tubular openings and scorches up the tender skin of the worm. Those who dislike such cruelty and yet dislike the wormcasts, must keep on with the roller. A light wooden one is best for the purpose, so that an active boy could draw it, and when it becomes clogged up a little the earth collected must be scraped off. A good roller for this purpose is formed of the bole of a tree, or any other piece of wood, say oak, made round, and 12 inches in diameter, and from 3½ to 4 feet in length. If there are no leaves or litter, such rolling will give a fresh, smooth appearance to a lawn. It does best when the ground is moderately dry. Clear lime water is easily made by throwing a good shovelful of quicklime into a hogshead of water, stirring it well, and then allowing it to stand from twelve to twenty-four hours before using it. Nothing else is so safe, though other things are equally destructive to worms. In places where worms plough up the sides of walks next the grass verges, removing the most of the heaps, and strewing a little salt along close to the grass, will generally prevent the throwing-up of such earth-heaps for that season, and a little salt may now be strewn along the sides, when it would not be advisable to apply a bit to the walks generally, as that would most likely make them soft and moist for the winter. Confined to 8 inches or so close to the sides, the moisture would be of less consequence if the drains are all right. In undrained walks such salting, even at the sides, will prevent rains passing off so freely as they otherwise would do.

In other places we satisfied ourselves merely with raking off the bulk of the leaves at present, and will follow ere long with the scythe, when we hope the rest of the leaves and clearings of beds may all be swept up and carried away, and the ground pretty well cleared for a month or two.

**Dahlias.**—These we went over, cutting over the tops where frosted a little and decayed, and placed them over the stems in case frost should come; but the weather looking uncertain, we had the most of the tubers taken up, labels fastened to them, and when they were dried a little, packed them in dry soil in a shed. So treated we scarcely ever lose a tuber.

**Gladiolus.**—Cut off the flower-stalks that were decayed; some are still showing fine spikes, and on the whole the general bulk is still too green to warrant lifting the bulbs, unless these should be lifted with less or more of ball, and be packed in pots or boxes, so that they may be sufficiently matured. In cold, strong soils it will generally answer best to lift the bulbs, class them according to size and strength, and plant them afresh by the time the fresh fibres and fresh stems begin to move. The very smallest offsets may be sown in rows, like Peas, in spring, and in a short time good-sized bulbs will be produced. Did these fine flowers continue to bloom all through the autumn they would be still more admired.

**Violets.**—Those out of doors should now be pretty well cleaned of fallen and withered leaves, as otherwise damp will be apt to injure them. Stirring the surface of the ground frequently, and even strewing on the surface rough cinder ashes, are good for keeping the plants healthy, and driving slugs away from them. It is not pleasant to smell them after a worm has left even its slimy trace upon them. Neapolitan Violets in pots or frames should have every runner or offset nipped off as it appears, leaving nothing but the old crown of the plant, and from that blooms will come all the more freely if the strength of the plant is not allowed to waste itself on fresh runners.

**Pentstemons.**—If cuttings have not been taken of the best and most desirable kinds, the plants had better be taken up and potted, and be kept in a cool airy place from which much frost is excluded. In dry light soils they will stand very well out of doors if little cones of ashes or dry earth be raised about

the stem just above the ground, and a few evergreen branches stuck among and around them.

**Fuchsias.**—All except the more tender kinds will stand out of doors in most places, when well established, if the stems are now cut down to the ground, and a heap of ashes, or better still a couple of inches of moss, be placed over the stool. Even when the climate is mild enough for the Fuchsia to stand the winter without the above cutting down, it is rarely, either as masses, or groups, or hedges, that these Fuchsias bloom so freely next season as those that have been cut down in autumn. In the latter case it is necessary that the young shoots should be thinned in May and June, and then those left will grow very freely and bloom in fine order in summer and autumn. We have no longer masses of these plants, but we must gradually introduce them again, as even when cut down in autumn, the summer shoots were pretty well as useful for sticks and stakes as a piece of osier or willow.

**Salvia fulgens.**—These fine scarlet flowers will generally stand in the ground all winter with very little protection over the roots, but even then they should be taken up and replanted in April or May, as the plants, though they keep alive in winter, will grow so vigorously in summer that they will scarcely bloom before autumn. Plants raised from cuttings and afterwards treated much as we have described for Calceolarias, will bloom sooner and more freely than these old plants; but managed as above they can be enjoyed by those who have neither pit nor frame.

**Salvia patens.**—The best beds of the most magnificent blue we ever saw were formed by strong plants that had not been moved for a number of years. The plants were cut down after frost, and the bed, after surface-stirring, was covered with 2 or 3 inches of rough leaf mould; and sometimes, over that, to keep birds from scratching, were placed a few evergreen branches, which were removed in April. Such beds were a dense mass of colour from the middle of July until frost came; as, though the individual flowers did not last long, there was always a plentiful succession of fresh flowers and fresh shoots.

**Lobelias** of the tall kinds of scarlets, and lilacs, and purples, may be kept in the ground much in the same way, but though they can scarcely have too much water when growing in summer, they suffer easily from too much moisture when in a state of rest in winter. A good plan for them is merely to stir the surface of the beds when the flowering-stems are decayed, and rough-hoop the bed with evergreens, so as to keep off the greatest severity of frost, and yet allow a free circulation of air. It is best to lift the roots and divide them in spring. To make sure with the least labour, the best plan would be to take up a portion and plant or place them thickly together in a cold pit, and then as soon as the suckers are above ground in spring, to divide them, pot them singly, and grow them to a good size before planting out. These will bloom earlier than those that stood in the ground all the winter, and were merely divided in April or the beginning of May.

As general routine, we finished putting in Calceolaria cuttings; went on stumping-in Scarlet Geraniums; gave plenty of air in fine days to greenhouse plants; took Primulas out of a place where they were too damp; potted Mosses and Ferns; regulated climbers in small stove; washed off all that remained of the shading of the glass, and though soft soap and soda were used in moderation, the whitening that was put on as shading, mixed with milk, required a little trouble to take it all off. In fine days gave all the air possible to plants at all hardy, and in dull days and wet weather gave a little fire heat where it was possible to do so. Damp and still foggy air are the great enemies to plants this month, and hence the superiority of most places where a little fire heat can be used, over cold pits and frames. The fire heat will always produce a motion of the air, and will change foggy visible vapour into that which is invisible, and yet always on the move. If a little heat is given to frames from fermenting material inside, that, in dull weather especially, will only increase the damp. Neglect of judicious air-giving in such a case will often be ruinous.—R. F.

**THE LANGUAGE OF FLOWERS AND FRUITS.**—The Lilac in April—"Give me leave." The Rose in June—"Well, I'm blowed." The Asparagus in July—"Cut and come again." Peas in August—"Shell out." The Apple tree in September—"Go it, my Pippins." The Cabbage in December—"My heart's my own."

## COVENT GARDEN MARKET.—NOVEMBER 18.

Quotations remain nearly the same. Pines are in much better supply, and Grapes have slightly advanced in price. The Potato trade is dull, and large quantities are on hand, both at the waterside and other depôts.

## FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples.....	1	0	2	0	Melons.....	each	3	0	5	0
Apricots.....	doz.	0	0	0	Nectarines.....	punnet	0	0	0	0
Cherries.....	lb.	0	0	0	Nectarines.....	doz.	0	0	0	0
Chestnuts.....	bush.	12	0	20	Oranges.....	100	10	0	20	0
Currents, Red ½ sieve	0	0	0	0	Peaches.....	doz.	0	0	0	0
Black.....	do.	0	0	0	Pears (kitchen).....	doz.	2	0	4	0
Figs.....	doz.	0	0	0	dessert.....	doz.	1	6	4	0
Filberts.....	lb.	0	9	1	Pine Apples.....	lb.	5	0	8	0
Cobs.....	100 lbs.	0	0	14	Plums.....	½ sieve	0	0	0	0
Gooseberries.....	½ sieve	0	0	0	Quinces.....	½ sieve	3	0	4	0
Grapes, Hambro.....	lb.	4	0	6	Raspberries.....	lb.	0	0	0	0
Muscats.....	lb.	5	0	8	Strawberries.....	lb.	0	0	0	0
Lemons.....	100	8	0	14	Walnuts.....	bush	14	0	20	0

## VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	each	0	4	0	6	Leeks.....	bunch	0	3	10	0
Asparagus.....	bundle	0	0	0	0	Lettuce.....	per score	1	0	2	0
Beans Broad.....	bushel	0	0	0	0	Mushrooms.....	pottle	1	6	2	0
Kidney.....	1/2 sieve	0	0	0	0	Must.& Cress.....	punnet	0	2	0	0
Beet, Red.....	doz.	2	0	3	0	Onions.....	per bushel	3	0	5	0
Broccoli.....	bundle	1	0	2	0	pickling.....	quart	0	0	0	6
Bras, Sprouts.....	1/2 sieve	2	0	3	0	Parsley.....	1/2 sieve	1	0	1	6
Cabbage.....	doz.	0	9	1	6	Parsnips.....	doz.	1	0	2	0
Capsicums.....	100	1	0	2	0	Peas.....	quart	0	0	0	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	2	6	4	0
Cauliflower.....	doz.	4	0	8	0	Kidney.....	do.	3	0	4	0
Celery.....	bundle	1	0	2	0	Radishes doz. bunches	0	6	1	0	0
Cucumbers.....	each	0	9	1	6	Rhubarb.....	bundle	0	0	0	0
pickling.....	doz.	0	0	0	0	Savoy.....	doz.	0	9	1	6
Endive.....	score	1	0	2	0	Sea-kale.....	basket	3	0	4	0
Fennel.....	bunch	0	3	0	0	Spinach.....	bushel	2	0	3	0
Garlic and Shallots, lb.	0	8	0	0	0	Tomatoes.....	1/2 sieve	0	0	0	0
Herbs.....	bunch	0	3	0	0	Turnips.....	bunch	0	4	0	6
Horseradish.....	bundle	2	6	4	0	Vegetable Marrows dz.	0	0	0	0	0

## TO CORRESPONDENTS.

**RHEUMATISM (A Young Gardener).**—We cannot venture into the domains of the medical profession.

**FRUIT AND VEGETABLE SHOW AT KENSINGTON (W. M.).**—Fruit may be exhibited alone.

**GREENHOUSE HEATING (G. J.).**—The stove you mention, having no flue, injures plants by the fumes emitted from the fuel. The hot-water apparatus you mention answers. We have heated a greenhouse for years by means of a gas stove, with a tube to carry away the fumes into the outside air.

**GRAPES DAMPING OFF (W. Ewart).**—We presume that you mean that the ripe berries become mouldy. If so, a little fire heat and a free circulation of air during the day will be your best course of proceeding.

**PROBABLE AGE OF ELM (G.).**—The amount of annual growth varies much, according to the soil and climate where the tree is growing. Your Elm, growing near Hereford, 3 feet 6 inches in diameter at 4 feet from the ground, we should estimate to be from ninety to a hundred years old.

**VINE LEAVES (Tyrol).**—The leaves sent us exhibit slight traces of having been recently infested with thrips, otherwise they appear healthy, though very thin, like tissue paper. The thrips may be destroyed by fumigating with tobacco, and the want of substance in the leaves remedied by giving more air.

**BOOK—PROPAGATING CISSUS DISCOLOR (A Subscriber, Galway).**—Thompson's "Gardeners' Assistant" contains instructions for both indoor and out-door gardening. We do not know the plant by the leaves sent. *Cissus discolor* is best struck from cuttings when the new shoots are from 3 to 6 inches in length, taking them off close to the stem with a sort of heel. Remove the leaves from the part to be inserted in the soil, which is to consist of two-thirds sandy peat, one-third light loam, and an equal quantity of silver sand. In this insert the cuttings singly in small pots, and plunge the pots in a hotbed of from 75° to 85°, preserving a moist atmosphere, and shading from bright sun. It may also be propagated from eyes, and cuttings of the wood of the previous year, the best time to do which is early in March. For established plants, a compost of equal parts of turfy peat, loam, and leaf mould, with a free admixture of sharp sand, will answer well.

**BOOK (T. C. Inquirer).**—We do not know the book you mention.

**POINSETTIA PULCHERRIMA AFTER BLOOMING (J. W.).**—Keep it near the glass, and diminish the supply of water at the root. Cut-in in February to two or three eyes, and, when the new shoots are a few inches long, repot. During the winter, keep moderately dry at the root in a temperature of 50°. Whilst growing it requires a stove temperature. If you wish to increase your stock, the cuttings may be put in when the plant is cut down. The plants will bloom all the better if raised from wood well ripened, which you will secure by keeping them near the glass, dry at the root, and in a temperature of 55° by night.

**TEMPERATURE OF FERNERY IN WINTER (Pond-ahn).**—If your Ferns are a mixed collection of stove and greenhouse kinds, a temperature of 45° from fire heat will meet the requirements of both as well as it is possible to do. If they are stove kinds only, then a temperature of from 50° to 55° should be afforded, and if greenhouse sorts a night temperature of 40° to 45° will be preferable, allowing a rise of 5° on dull days, 10° on those which are cloudy with clear intervals, and 15° on clear days. These temperatures apply to the months of November, December, January, and February. Air may be given with advantage at this season, taking care to avoid draughts, and the admission of cold, frosty, dry air. Air during mild weather is indispensable for the preservation of the plants in health.

**SKELETON LEAVES (Constant Reader).**—We know of no mode of skeletonising leaves except keeping them in water until decayed. There is no reliable work on aquariums.

**ROSES FOR EAST, NORTH-EAST, NORTH-WEST, AND WEST ASPECTS (A Subscriber, Galway).**—Duc de Cazes does not grow sufficiently for a wall, nor do any of the others named, except Jules Margottin; that and the following will do on the east and west aspect—viz., Hybrid Perpetuals, La Reine, Eugene Appert, Glory of Waltham, Baronne Prevost, Lord Raglan, Madame Julie Daran, Red Rover, and William Jesse; Bourbons Acidule and Sir Joseph Paxton; Hybrid Bourbon, Coupe d'Hebe, Charles Duval, and Paul Perras; Hybrid China, Blair No. 2, Madame Plantier, Vivid, Chené-dole, and Brennus. For the north-east and north-west aspects, climbing Roses would do best. Of these, choose Ruga, Thora-byana, and Dundee Rambler of the Ayrshire class; and, of others, Fortune's Yellow, Myrantes Rénocule, Rampante, Williams's Double Yellow, Jannatré, and Madame d'Arbaly. For your south wall, in addition to those you have, as you wish for red shades, you may plant Fellenberg, Nisida, and any other good Noisette kind.

**APRICOT TREES UNFRUITFUL (Idem).**—Peaches usually come into bearing before Apricot trees, which grow vigorously whilst young. We should not advise their being discarded for Peaches, unless you particularly wish it. Give them a trial another year, and if they do not show fruit, or if you can now distinguish the bloom buds from wood buds, and find none of the former, we advise the trees to be taken up now, and replanted with the stem slightly elevated, and the roots spread out upon the border, and then covered with 6 inches of fresh earth. If your soil is a strong deep loam, deficient in calcareous matter, we also advise the border to be covered with an inch of old mortar rubbish, or, failing this, lime riddings worked into the soil before the trees are planted, and lay a flagstone a yard square, 1 foot below the surface, where the tree is to be planted. We think that the unfruitfulness of the trees is due to their vigorous growth, induced by a rich deep soil. On our gravelly soil young trees, even, bristle with blooming spurs, and, if anything, our wall trees promise to produce too much bloom next spring. Your trees will fruit in due season, only keep their vigour under, and do not prune severely, but stop to four leaves the side shoots not wanted to fill vacant space, and to one after the first stopping. The leading shoots must not be stopped. Tolerate no winter pruning, we have given it up with Apricots as being a bad practice, and summer-prune instead, leaving nothing then that is not wanted to fill vacant space, and to produce fruit and fruit spurs another year.

**JOINTS OF HOT-WATER PIPES (Con. Sub.).**—We presume the truss joints you speak of as applicable to hot-water pipes, are those patented and supplied by Mr. T. S. Truss, 53, Gracechurch Street, London. There can be little doubt of the joints answering, though we have not worked them ourselves.

**RELAYING AND LEVELLING A LAWN (Weston).**—Your lawn needing relaying and levelling, we should advise its being done. Nothing looks more unmonumental than a bad uneven lawn, whilst nothing is more pleasing than a level lawn of good turf well kept. Now is the time to do it. Take off the turf, cutting it from 1½ to 2 inches thick, and this is more expeditiously done with a paring knife or plough. Roll the turves, grass side inwards, in lengths of from 2 to 3 feet, and lay them clear of the ground to be levelled. Level the ground next, which, we presume, you understand, and if the lawn is extensive you may only remove a part of the turf; level that part, and relay the turf afterwards proceeding with another part until the whole is finished. In doing the work in pieces you must calculate the general level of the whole, and lay the first piece so that the last may be on the same level with it when the work is completed. With-out this, you may so lay the first piece as to make the lawn less level than it is at present. Having taken off the turf, level the ground, leaving an even thickness of soil over the whole. Where hollows exist take off the surface soil, fill up with poor soil, and then place from 6 to 9 inches of good soil on the top; and in like manner when high parts have to be taken down, a similar depth of good soil should be placed at the top, the original soil being taken out deeper, so that the good may be substituted for it. Your soil being a strong clay, it may be well to drain it, and to render the surface dry the turf may be relied on 2 inches of coal ashes, but do not use more than 3 inches of ashes under the turves, or the turf will burn in summer. Spread a little soil over the whole, beat firmly, and after the first rain beat again, rolling well. Give a dressing of short manure in February, and roll twice a week after the manure has been brushed in.

**TREES NEAR A HOUSE (Eastbourne).**—We do not clearly understand what you mean by "What trees or shrubs ought to be planted near a house for sanitary reasons?" All trees and shrubs are sanitary agents, they inhale gases noxious to animal life, decompose them, and emit oxygen, the vital air of man and animals. If planted very close and thickly near a house, trees and shrubs sometimes retain too much damp in the soil, otherwise thick belts of Conifers, and other trees, afford shelter, and they and all others promote health. Even the Upas tree is a health-promoter, its alleged deadly influence is all a romance; we have sat under its shade, gathered its leaves, and handled its bark often. Ivy covering the walls of a house acts most effectually in preserving and keeping them dry.

**MAKING A FERNERY OF A SUMMER-HOUSE (P. B.).**—We should retain the battlemented stone coping at the front. It will not shade the interior to any great extent. Too much light would certainly be injurious to the Ferns, but, as you will need all the light possible in winter, it is easy to shade the house from the sun in summer by stretching thin canvass over the glass. The rough plate glass, we think, will be sufficient to protect the Ferns from the sun without having to resort to shading the roof, especially if they are some distance from the glass, but that can only be determined from experience.

**FELLMONGERS' REFUSE (Subscriber, near Dublin).**—The scrapings of skins, hair, &c., are an excellent manure. We should only employ it for kitchen-garden crops, or as a top-dressing in the spring to your old pasture. It would be valuable also for your Turnips and Mangold Wurtzel. About 12 cwt. an acre would be enough.

**PEACH PRUNING (Beach Lawn).**—If you enclose five postage stamps to our office with your direction, and order "Fruit Gardening for the Many," you will receive it free by post. In that you will find all the directions we can give, with illustrations. Any special questions on any point you do not clearly understand we will readily answer.



**CONVERTING A SUMMER-HOUSE INTO A FERNERY (P. B.).**—A south front will answer, with the roof sloping towards the north. Whatever part of the glass the sun's rays fall upon between 9 a.m. and 4 p.m. from March to October will require to be screened, or the Ferns under it will suffer. If you could so contrive that the Ferns would receive light without the direct rays of the sun, the necessity for shading would be done away with; but in winter you would experience a loss of sun heat and light, and at that season Ferns cannot have too much of either. We should endeavour to make the house look as well externally as we could, and if we found it necessary to shade we would do it. There is no objection to a door in the east wall.

**PRICE OF GRAPES (A Poor Gentleman).**—We are sorry that, from our own experience, we cannot give more definite information as to the price to be obtained for Grapes in September than that supplied at page 285. On sending a quantity to Covent Garden to a salesman, much depends on the state of the market, and the demand for such things—as seems to be instanced by your receiving only 6d. per lb. at one time and 1s. at another time. We think it would be well to try more than one salesman. The best prices are generally obtained from salesmen when they take the crop, and send for the produce as they particularly want it. We shall be glad if some correspondent will give more definite information to this inquiry. You would obtain better prices if you ripened the Grapes earlier. We would plant two Vines of the Royal Muscadine in such a small space as forms the roof of the hen-house, considering that the place is shaded except at mid-day.

**HEATING A RANGE OF PITS (R. H. L.).**—We do not think you will succeed in heating your pits from the house, and just from dipping down 24 feet under the pathway that separates the house from the pits. Could you have carried the pipes across into the pits on a similar, or a higher level, there would have been no difficulty. To succeed, by the mode you have tried, two things are desirable, almost essential: first, the top of the boiler must be on a lower level than the pipes that now come under the pathway; and, secondly, the highest point of the pipes in the pit, instead of being the same height as the level of the pipes in the house, should at least be from 12 to 18 inches higher. The whole would be better if the highest point of the pipes in the pit were just as much above the level of the pipes in the house as they go under that level below the pathway, and even then, as said above, the boiler must be lower than the lowest pipe. If the boiler is low enough for the water to circulate beneath the pathway, your easiest plan would be to heat house and pits separately at once from the boiler. If you send us a section, showing the position of the boiler, and pipes in the house, and pipes in the pit, exactly as respects height, we might be able more effectually to advise you. Even now, supposing the boiler to be sunk low enough, you had better rise at once in the pits a little higher than the level of the pipes in the house, and place your air-pipe or valve there, the open small pipe carried out of the house being better than a valve. Some time ago, we noticed the successful working of two houses belonging to Mr. William Fells, nurseryman, of the Market Place, Hitchin. The lower house was heated in the usual way, and, from the end of that house, pipes were taken, with valve-connections, and lowered under a pathway, and taken into the other house. But, in this case, the pipes were fully 2 feet higher in the second house than the first, and there was an open cistern at the highest point, and the boiler was considerably below the lowest point of the pipes under the pathway.

**IMPROVING A GRASS FIELD (Clericus).**—Most likely your field would be the better of being well drained; at the same time dig up all those coarse tufty pieces of grass which no animal will eat, and which, as you say, the scythe will not cut. Give the land a good dressing of manure, or compost, as early in the winter as you can, and it will have time to mellow down before spring, when it may be brush-harrowed, all stones picked off, and then rolled. If there are any open ditches, let them be cleared out, and the scorings, together with the tufts of coarse grass, carted to a heap where they may rot; and the whole, if mixed with about one-sixth of its bulk of quicklime, will form an excellent dressing for the ground another year. If the grass is exceedingly poor, and a too large proportion of it consists of this coarse grass, it would be better to have it ploughed up, and put the land under tillage for two or three years. In general, however, such pastures may be improved by the means recommended above. A liberal allowance of manure is one of the best of remedies. Mowing for hay seldom improves the bottom, but pasturage by sheep, on the contrary, is one of the best modes of doing so, cutting out, at the same time, all thistles, dock, and those coarse tufty lumps of grass, which are useless for all purposes. Mowing off the seed stems in August, which is sometimes done for appearance, is of no benefit to the grass, but the contrary. A little grass and clover seed sown over it in spring will do good.

**PROTECTING CHERRY TREE FRUIT BUDS FROM BIRDS (C. C. E.).**—Black worsted strung from point to point of the branches, so as to have the appearance of a net with two-inch meshes spread over the trees, we find effectual in preventing the attacks of sparrows and other birds. A composition of soot, sulphur, cowdung, and soft soap will not injure the buds, if the soft soap be not used in a greater proportion than 8 ozs. to the gallon.

**COST OF A Vinery (W. C. W.).**—Unless on the orchard-house plan, having no moveable sashes, you will not, even having the back wall already there, put up such a house, 50 feet by 15 feet, for £35. With seventeen Vines up the rafters in such a house, we advise having nothing at all planted against the back wall, but a shelf or two might be placed there, the highest for Strawberries, the lower one for Beans, &c. We cannot say in how many years the crop of Grapes cut in June would repay the outlay, that would be regulated by many circumstances, but, if the house cost so little in erecting, we should imagine in the third and fourth years after planting, provided all went on favourably.

**NAMES OF FRUIT (R. J. N.).**—The Apple is Franklin's Golden Pippin. Pears: 1, Beurre diel; 2, quite rotten; 4, Easter Beurre; 5, Belle d'apres Noel; 6, Baronne de Mello; 7, Glou Morceau; 8, Jean de Witte. (L. P. C.).—1, Scarlet Nonpareil; 2, Golden Winter Pearmain; 3, Braddick's Nonpareil. (A Subscriber, Putney).—Pears: 1, Marie Louise; 2, Swan's Egg; 3, Vicar of Winkfield; 4, Beurre diel. Apples: 1, Kerry Pippin; 2, Winter Greening; 4, Pearson's Plate. (W. Meredith).—1, Jean de Witte; 2, Glou Morceau; 3, Knight's Monarch; 4, Beurre d'Arcemberg; 5, Passe Colmar.

**NAMES OF PLANTS (B. Waites).**—A very good form of *Polystichum angulare multifidum*, if permanent; but others equally good are known to be inconstant. (L. W., a Subscriber of Many Years).—1, *Gymnogramma ochracea*; 2, *G. calomelanos*; 3, *Nephrodium molle*; 4, *Blechnum corcovadaense*; 5, *Pteris longifolia*; 6, *Platyloma flexuosum*; 7, *Adiantum Filix-femina*; 8, *Polystichum angulare*, young—probably; 9, *Cheilanthes hirta*. (H. E.).—1, *Adiantum aspidioides*; 2, *Lastrea dilatata collina*; 3, *Microlepis trichosticha*. (W. H. M.).—*Cystopteris dentata*. (P. H. G.).—Your tree is the Hornbeam.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 18th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun... 12	30.404	30.361	49	26	47½	47	E.	.00	Slight fog; overcast at night; slight frost.
Mon... 13	30.389	30.218	53	27	47½	47	E.	.00	Fine throughout; clear, with slight frost at night.
Tues... 14	30.089	30.040	51	45	46	47	S.E.	.00	Overcast; fine; overcast; fine at night.
Wed... 15	30.309	30.006	54	31	48½	47½	W.	.04	Rain; densely clouded; bright sun; very fine throughout.
Thurs... 16	30.090	30.046	54	42	46½	47	S.W.	.03	Foggy; densely clouded; rain; overcast.
Fri... 17	29.804	29.783	54	29	49	47	S.	.24	Densely overcast; rain; clear at night; slight frost.
Sat... 18	29.161	30.049	50	28	50	48	S.W.	.00	Clear; very fine; overcast at night.
Mean..	30.178	30.080	52.14	32.57	46.43	47.21	....	0.31	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### GAME JUDGING AT BIRMINGHAM.

As "JUSTITIA," when referring to the Birmingham arrangements in his present dispute with your correspondents "OLD COCHIN" and "AN EXHIBITOR," seems so scrupulously desirous that all remarks should be entirely limited to the judging of Game fowls at the Birmingham Show, any reasonable explanation of the following well-known facts would remove those fixed impressions, that even until this very hour so generally prevail among, not "one or two," but many scores of exhibitors respecting (to use the words of "JUSTITIA" himself), "A certain peculiar notoriety obtained in Birmingham in the Game department."

Can "JUSTITIA," who professes to have this subject so perfectly under his own command, therefore explain for the benefit of those less informed, how it was that the Game fowls exhibited at Birmingham two years back by a gentleman as his own Game fowls, after being awarded the prizes were recognised by

one of the Game Arbitrators there as being his own identified property, and consequently "disqualified?" Also, how it occurred that these particular pens of fowls were afterwards publicly advertised for sale by the individual who at first exhibited them, and that this offer of sale was made subsequently to their being actually sold and delivered up, quite independently of both the Arbitrator and original exhibitor? This was done by a third person, who, at the time of payment, gave a stamped receipt in his own name to the purchaser of the disputed pens, which unerring document still remains in existence.

A satisfactory solution by "JUSTITIA" of this at present somewhat complicated enigma, would release from doubt the minds of very many others of your readers besides—COCKSPUR.

### CALNE AND OTHER POULTRY SHOWS.

I HAD intended writing a few words on Mr. Heath's reply to "WILTSHIRE RECTOR," and the "TURKEY PRISONERS." I fear now I am somewhat late. All of us are well assured that in "WILTSHIRE RECTOR'S" remarks he intends no possible

unkindness, but to sow broadcast a little of that love towards our feathered pets which he feels so warmly himself, and we exhibitors feel that in any show he visits, if our pets are not properly attended to, he will kindly point out the errors. The complaint of the Turkeys is a very serious one; they require very much larger pens than they generally have. As to the size of the Calne pens I know nothing, as unfortunately I was not there to see; but the imprisoned Turkeys would appear to have been very wide awake, and to have taken a note of the varied doings of the officials. It cannot be too much impressed on poultry show officials, that to cause any disfigurement or unnecessary damage to the plumage of exhibited birds is exceedingly unfair to the owners. I imagine that most of us think—certainly I do myself, that having paid the required entrance fee we may place some faith in the regulation generally found in schedules, that "Every possible care will be taken, &c." Can this regulation be carried out in good faith when the pens are too small? As regards the Dark Brahmas, "WILTSHIRE RECTOR," even as understood by "AN EXHIBITOR," was partially correct, for although shown in the "Any age" class, my prize pen contained two pullets. My pen in the chicken class was shown for sale.

I do not know whether the concluding portion of Mr. Heath's letter applies to me or not. He says, "As an instance of how ready some people are to find fault, one successful exhibitor has already complained at not receiving his prize money; but surely a fortnight after the Show is not unreasonably long." I was writing to the Secretary as to the return railway carriage, with which I had been unexpectedly charged, and whilst writing, I said Calne was not so punctual in paying prizes as formerly, when, if I recollect rightly, three or four days only elapsed; this was, if I mistake not, under Mr. Heath's management. I do not think I complained more than this. But now I will state what I think ought to be done by every poultry committee. The prizes are debts justly due from the committee to the successful exhibitors; this, I presume, is acknowledged; it follows, therefore, that without waiting to see what may be the profits or otherwise of the show, the Secretary might, within three days of the close of the show, take his prize list and dispatch the various amounts, with any sale money, to the several destinations. This, it seems to me, is the fair way of transacting the work. To keep shows going, it is of paramount importance to keep exhibitors contented, and any dilatory payment is apt to make a bitten exhibitor suspicious. I agree with remarks that I have seen in previous Numbers of your Journal, that exhibitors should be treated with more courtesy than they often receive. I hope Mr. Heath will not think I am speaking of Calne—there, I know from past experience it is the reverse, and we all feel it a comfort to our pets that a fellow—"maniac," as we used to be called, is on the committee. Any remarks I may have made are intended for poultry committees generally. J. HINTON.

### NORMANDY FOWLS.

As the name implies, these birds were obtained from Normandy. They have a very striking appearance, being snowy white, free from colour, strikingly contrasting with the crimson red comb lying down on part of the bill, and the red face and wattles. The plumage contrasts also very remarkably with their light blue legs. The attitude of the male bird resembles that of the Flamingo, with the exception of the length of the neck and legs. As a table fowl scarcely any other breed can compete with them. My male bird, five months old, weighs 6 lbs. 6 ozs., being 1 lb. 6 ozs. beyond a pound per month's growth.

I may add that the bones are very fine, and the interior parts of the fowl light. The skin is thin, and pure white, the flesh is juicy and very high flavoured. As layers they are first-class, laying about forty eggs before showing any wish to incubate.—H. LEWORTHY.

[We insert this at the request of Mr. Leworthy, but not having seen the fowls, we cannot form a judgment as to their novelty or merits.—Eds.]

OUR BRITISH SONG BIRDS.—Some time ago I remember an inquiry in this section of the Journal, as to whether the notes of our English birds had ever been musically rendered. A very ingenious book, "Gardiner's Music of Nature," contains what your correspondent asks for; and not only the songs of birds, but the sound of most animals, and the use made of them by

the great composers, especially Beethoven and Mozart. I am sorry that it has always escaped my memory at the proper time, and if this should meet the eye of your correspondent, I think he will be pleased with the book.—F. H. WEST.

### DUCK-FOOTED GAME FOWLS.

I PERFECTLY agree with Mr. Hewitt as to the desirability of proving by adduced facts, whether duck-footed birds inherit this failing by hereditary descent or otherwise.

My own opinion is that it is an inherent defect in some birds, although in the *British Sportsman* I find the following remarks:—"When your chickens want to go to roost, let the perches you provide for them be round and covered with woollen cloth, which will prevent their growing crooked-breasted, neither should they be thicker than they can grasp with ease, as that would occasion them to be duck-footed." This last article, when it happens, is a great detriment to them, by reason of their not being able to stand so firm in their battle as they otherwise would do were their claws in a proper direction." Now I have kept Game fowls some years, and have tried experiments to prove whether I could counteract the tendency to be duck-footed or crooked-breasted by different forms of roosting, warmth, high feeding, a good grass run, and a clean run of water, but could never eradicate this failing when the parent stock were deficient.

Perhaps you may be able to counteract an indented breast by judicious care, instances of which I have witnessed. I would caution all breeders of Game fowls to be particularly guarded and circumspect in selecting their brood stock, and would recommend them to destroy all defective chickens; by so doing they will bring their breed to a greater state of perfection. Exhibitors of this noble bird ought to see that the birds are in all respects free from glaring imperfections, for occupying walks with defective birds is not only an increase of expense, but a great disappointment when the birds are disqualified by the judges; indeed, notwithstanding all our efforts and care in breeding, they are not always crowned with success.

I will now quote from an old work on the Game fowl the imperfections we should guard against:—"Flat-sided, short-legged, thin thigh, crooked or indented breast, short thin neck, imperfect eye, duck and short-footed, long and loose-feathered, and unhealthful."—SKETCHLEY.

Mr. Hewitt having invited amateurs interested in the discussion on the deformity in Game fowls, known as "duck-footed," to communicate any facts in proof of its hereditary tendency or otherwise, I will, with your permission, give my own experience of the occurrence of the deformity, having paid some little attention to it.

I little thought when I wrote to you to ask the precise nature of the affection that it would have raised so much discussion on the subject, and I think amateurs generally must, with myself, feel much indebted to Mr. Hewitt for his sensible and well-grounded opinions, the result of an amount of experience which few can bring to bear.

In some Black-red Game chickens which I bred this year from a cock which had "a tendency" to duck-footedness, the hen's back toe being perfectly straight, one out of thirteen chickens was decidedly duck-footed, and another had a tendency to it; in the other eleven the back toe is quite straight. The mother of the cock from which the thirteen chickens were bred had a greater tendency to the deformity, and the grandmother of the cock was quite duck-footed. In this case, I imagine, there was little doubt about the deformity being produced from hereditary tendency, becoming less and less from interbreeding with fowls not so affected. Again, in the Duckwing chickens, bred from birds in which the back toe is perfectly straight, one has a tendency to it, and another is decidedly duck-footed; also in some Brown-reds, from parents quite free from the deformity, two chickens show a great tendency to it. In both these cases, as far as I have the means of judging, there is no hereditary tendency, neither the parents nor grandparents, to my knowledge, being malformed. How far the kind of perch which is used may be the means of producing the deformity I cannot say, some of my chickens having roosted in trees, others on perches made from oak saplings, about 3 inches in diameter, split, and placed with the round side uppermost. Since this subject has been under discussion I have made some dissections of the feet and legs of fowls affected with this deformity, and I find the hind toe drawn forward by an unnatural amount of contraction of the flexor, or grasping-muscle and tendon of the



deformed toe, somewhat analogous to what is met with in club-foot in the human subject; and you might as well expect to see a man with the latter deformity win a foot race, as a duck-footed Game cock hold his own in an encounter with a bird not so affected. Although Game fowls may not always be bred for fighting-purposes, yet in an exhibition pen, I think they should certainly come up to the standard of birds so required, for in other respects they have to be shown as fighting birds, and I cannot but agree with Mr. Hewitt in his verdict of disqualification for duck-footedness.

From my investigations I have come to the conclusion, which I hope will be confirmed, or if wrong disproved by other observers, that duck-footedness may arise both from hereditary tendency, and also where there is no hereditary cause (the former, I believe, being more frequently the case), but that it may also be induced by causes acting detrimentally on the health of the growing chicken, especially unwholesome and indigestible food, damp, &c. The long continuance of such causes tends to lower the bird's vital powers, and acts as an irritant in some cases to the nervous centres and nerves, causing contraction of certain muscles, which may exhibit itself in duck-footedness or wry tail, or some other deformity, especially where the constitution of the parent birds is not good. I have only treated the theoretical part of the subject very cursorily, as it requires further investigation; but as I believe that all cases of deformity cannot be traced to hereditary causes, I have attempted a solution of them by the aid of scientific research and reasoning, in the hope that others better able than myself to give an opinion, may be led to add their experience.—MAN OF KENT.

### CHELMSFORD AND ESSEX' POULTRY EXHIBITION.—NOVEMBER 15TH.

THE Poultry Show just closed is the first that has been held in this district, and we are glad to announce that the entries numbered more than three times as many as the most sanguine promoter of the Exhibition had anticipated. It was held in connection with a show of chrysanthemums, in the Corn Exchange, a building most excellently suited to the purpose, for, the whole roof being of glass, the light is equally dispersed throughout the entire area. As so many more fowls were entered than anticipated, recourse was had to a small tent raised in a yard at the rear, for the accommodation of the Turkeys, Geese, and Aylesbury Ducks. All things progressed most satisfactorily; the whole building was bedecked with a most profuse display of banners, and music was introduced as an addendum; though the introduction of music at a poultry exhibition, in too near proximity to poultry, is open to a second opinion, as it unquestionably alarms many of the birds exceedingly. The Committee men stood well to their respective appointments, and, from present results, no doubt another season would add most materially to the number of pens exhibited—a matter, however, that need not cause a moment's anxiety, as the Corn Exchange would accommodate, with comfort, from five to six hundred pens, if devoted exclusively to a poultry exhibition.

In Coloured *Dorkings*, the want of perfect condition was most conspicuous throughout the greater portion of the class, though there were several excellent pens. In fact, the entire restoration of feather this season, throughout all kinds of birds, seems both tardy and very difficult of attainment, and we hear great complaints of losses of exhibition birds in consequence. Not a single specimen of White *Dorkings* was shown, though the Silver-Greys were good. In *Spanish*, the evidence of the intense frosts of last winter was conspicuous in more than one instance. A cock, that had been an exceedingly good one, had evidently been so frost-bitten as to have lost about one-half of the serrations of his comb, a hopeless defect in an exhibition bird. No *Spanish* fowls should be turned out at an early hour in the day in very cutting frosty winds, more particularly if roosted in a warm situation, or frost-bite is almost inevitable. The *Game* classes were not so good as might have been wished for. Buff *Cochins* were well shown, though, unfortunately, several pens were here entered "not for competition,"\* from a false delicacy of not exhibiting for prizes by Committee men. Were this plan to be generally followed, few shows could be upheld; for it is the inherent love of the pursuit that alone can make any Committee un murmuringly pursue the laborious duties of carrying out a poultry show creditably. The prize Buff *Cochins* were birds of very considerable merit, and of excellent colour, and age will tend much to their improvement. Three beautiful birds were highly commended in this class, but they were very badly matched, the cock being a very fine clear strong buff, and the hens of the lightest possible straw-colour. The class for Any other variety of *Cochins* contained a very respectable pen (first prize) of Partridge-coloured, the rest being all white ones, and "falcon-hocks" were universal. In the class for Pencilled *Hamburghs*, Silver-pencilled were victorious; whilst in the Spangled class, Golden headed the list. The dark *Brahmas* were very good, the light-feathered not being well shown. The *Game Bantam*

class was one of the best classes of the whole meeting. Here Mr. John Crosland took his customary position with a superior pen, in faultless condition, and, if these birds are to be regarded as evidence of the strength of that gentleman's yard this season, for they are early young birds, he will prove an awkward antagonist to shake off at most of our large meetings. The second-prize birds, belonging to the Rev. G. Raynor, were also no mean claimants to distinction. In the Any other class of Bantams, an excellent pen of Cuckoo-coloured Japanese (well matched) took first honours, Blacks second. Here again—"not for competition"—Mr. Manning exhibited a pen of Gold-laced *Sebrights*, the heroes of many an exhibition, a long detail of their achievements being presented to the inquiring visitor on a card at the front of their pen, also a photograph of the late Sir John Sebright. It was really grievous to see the hens in this pen eating off the immature feathers from each other, as every unnaturally forced reproduction tends to ensure plumage faulty in colour. Some splendid *La Fleche* fowls were shown, also some dwarfed Black *Hamburghs*, as "Forest Fowls" six months old. The cock had, without doubt, enjoyed existence for very many years past, and possibly months was simply a misprint for years. Some Ring-necked common *Pheasants*, and also some Silver and Golden *Pheasants* were shown, but their excessive wildness, under strange inspection, detracted much from the pleasure of visitors.

Some first-rate *Turkey* ponies were shown, and also some splendid *Geese*, but not matched so well in feather as is necessary for exhibition. Carolina *Ducks* were shown in superior feather, and a couple of pens of *Pen-fowls* were very attractive. At Chelmsford a good proof was afforded that the love of natural history leads directly to the love of pets, which, now-a-days, as inevitably leads on again to that of exhibition poultry. Miss Mary Manning, the daughter of one of our most spirited and well-known exhibitors, sent to Chelmsford a most singular group, entered in the catalogue as "The Hare with many friends." The Hare's present associates were evidently not precisely the counterparts of those represented in the old well-known fable. They were all evidently friends, and a "happy family." The pen in which they were enclosed was of glass, scrupulously clean, and so arranged as to afford perfect ventilation. Amidst her incongruous visitors the Hare sat as unconcerned as the master of a household, but, most rudely, not forgetting to insure a liberal appropriation of the viands provided to "No. 1:" for she ate as constantly as Hares always can do, and in quantities few persons would believe but those who have kept them in confinement. She was obviously in full enjoyment of the best of appetites, and most unpolitely looked exclusively to self, leaving a Silver-Grey Rabbit and a Himalayan Rabbit to enjoy as best they could the remnants of her feast. Nor were these the only friends compulsorily invited. A white cat with a bell on her neck sat harmlessly among them, but evidently absorbed in deep thought, whilst a pair of *Game Bantams* strutted without injury wherever fancy led them. A by no means inferior Yellow Jacobin Pigeon was also present, which at intervals pertinaciously cooed its remembrances of "And Lang Syne" into the very ears of its newly-formed acquaintances. This bird's noisy intrusions remained apparently quite unheeded, nor was it personally molested in the least by any of them. They proved the greatest of favourites with the sight-seeing public, and were the constant objects of attention. An extra prize of 5s. was allotted to them.

The day proved very favourable, and the attendance was so good, that we are informed a greatly increased prize list will be issued for another year. This, in connection with the good management of the present year's Show, will, undoubtedly, increase greatly its success as to poultry, and if the exchequer would admit of classes for Pigeons also, it would be an improved arrangement, over a class for every variety of Pigeons exhibited indiscriminately for the same premiums.

**DORKINGS (Coloured).—**First, H. Lingwood, Needham Market, Norfolk. Second, F. Parlett, Chelmsford. Third, R. B. Postans, Brentwood. Commended, G. Griggs, Romford; J. Frost, Parham, Wickham Market; Rev. J. Papillon, Lexden Rectory, Colchester; W. H. Walker, Shenfield.

**DORKINGS (White or Silver Grey).—**Prize, Dr. Campbell, Essex Asylum, Brentwood (Silver Grey). Highly Commended, J. R. Hicks, East Bergholt, Colchester (Silver Grey). Commended, F. Parlett, Chelmsford (Silver Grey).

**SPANISH.—**First, R. B. Postans, Brentwood (Black). Second, Mrs. Pattison, Maldon (Black). Commended, S. H. Deal, Chelmsford (Black); J. A. Townsend, Old Brompton (Black).

**GAME (Reds).—**First, J. Jcken, Eltham, Kent (Black-breasted). Second, W. W. Pyne, South Lancing, Sussex (Brown-breasted).

**GAME (Any other variety).—**First, J. J. Hazell, Great Bromley, Manningtree (Duckwing). Second, T. Dyson, Halifax, Yorkshire (Duckwing). Commended, J. J. Hazell (White).

**COCHIN-CHINAS (Buff).—**First, H. Lingwood, Needham Market, Norfolk. Second, W. H. Walker, Shenfield, Brentwood. Highly Commended, J. W. Rust, Hastings, Sussex.

**COCHIN-CHINAS (Any other variety).—**First, J. H. Upson, Rivenhall, Witham (Partridge). Second, R. Maskell, Tillingham (White).

**HAMBURGH (Gold or Silver-pencilled).—**First and Second, T. J. Saltmarsh, Chelmsford (Silver). Highly Commended, W. Mayron, Chelmsford (Silver).

**HAMBURGH (Gold or Silver-spangled).—**First, J. F. Loversidge, Newark, Notts (Gold). Second, C. Turner, Baddow House (Silver). Commended, Mrs. Pattison, Maldon (Silver).

**BRAHMA FOOTRAS.—**First and Second, E. Sheerman, Chelmsford (Dark). Highly Commended, E. Pigeon, Lymington, Exeter; Rev. T. C. Hose, Wymondley, Stevenage, Herts (Dark). Commended, E. Sheerman (Light); C. Cork, New Shoreham, Sussex.

**GAME BANTAMS (Reds).—**First, J. Crosland, Wakefield, Yorkshire (Black-breasted). Second, Rev. G. Raynor, Kelvedon Hatch Rectory,

\* All Mr. Manning's pens were so shown.

Brentwood (Black-breasted). Highly Commended, Rev. G. Raynor (Black-breasted). Commended, Rev. G. Raynor (Black-breasted); W. H. Walker, Shenfield, Brentwood (Black-breasted); R. B. Postans, Brentwood (Black-breasted); Rev. T. C. Hose, Wymondley, Herts (Black-breasted).

GAME BANTAMS (Any other variety).—First, Rev. G. Raynor (Red Piles). Second, R. B. Postans, Brentwood (Duckwing). Highly Commended, Rev. G. Raynor (Red Piles); J. Croxland, Wakefield, Yorkshire (Duckwing).

BANTAMS (Any other variety).—First, E. Pigeon, Lymington, Exeter (Japanese). Second, E. Cambridge, St. Philip's Works, Bristol (Black). Highly Commended, G. Griggs (Old-English feather-legged Spangled).

ANY OTHER VARIETY NOT PREVIOUSLY MENTIONED.—First, E. Pigeon, Lymington (La Fleche). Second, R. Warner, Broomfield (Forest Fowls).

PAIR OF PUEASANTS.—First, Miss M. Manning, Springfield (Gold). Second, J. G. Grave, Chelmsford (Gold). Highly Commended, J. Dixon, jun., Chelmsford (Silver). Commended, J. R. Hicks, East Bergholt, Colchester (common lute).

TRAREYS.—First, A. Hutley, Terling, Witham (Cambridge). Second, A. Durrant, Chelmsford (Cambridge). Highly Commended, A. Hutley (Cambridge); A. Durrant (Cambridge).

GESE.—First, J. Bott, Hatfield Peverel, Chelmsford. Second, T. H. Upson, Rivenhall, Witham (China).

DUCKS (Aylesbury).—First, Mrs. Pattison, Maldon. Second, Rev. M. R. Burnard, Margaretting Vicarage. Commended, F. Parlett, Chelmsford.

DUCKS (Any other variety).—First, R. Warner, Broomfield, Chelmsford. Second, F. Parlett, Chelmsford (Rouen). Commended, T. C. Harrison, Hull (Brown Call).

PIGEONS (Any variety).—First, H. Bunce, Walworth, Surrey (Almond Tumblers). Second, E. Disney, the Hyde, Lugatstone (Pouters). Highly Commended, W. Cottiss, Witham (Blue Fantails and Priests). Commended, W. Cottiss (Japanese); Mrs. Townsend, Hatfield Peverel (White Fantails, Yellow Fantails, Archangels, and Red Jacks).

SELLING GLASS.—First, Dr. Campbell, Brentwood (Coloured Cochins). Second, F. Parlett, Chelmsford (Silver-Grey Dorkings).

EXTRA CLASS.—First, Mrs. Mayhew, Gallewood Hall (Peahen and three young birds). Extra prize of 5s., Miss M. Manning, Springfield "The Hare and many friends."

Mr. Edward Hewitt, of Eden Cottage, Sparkbrook, officiated as Judge.

### GLOUCESTER BIRD SHOW.

THE fourth grand annual Exhibition of Canaries and British and foreign Cage Birds took place on the 11th and two following days, and very great praise is due to Mr. G. Cummings, the indefatigable Secretary, for his perseverance and endeavours to make the Show worthy of being seen. Although there were not quite so many birds exhibited as at the previous show, still there were many very choice birds on the stages, which also contained many fine plants in pots. The Norwich birds, especially the first prize Buff belonging to Mr. Gayton, Northampton, were pretty good, and the Belgians, both clear and variegated, did the exhibitors great credit. The Lizard classes, although somewhat weak in number, contained three or four excellent birds; and the Mules, especially the two Jouque birds shown by H. Ashton, Esq., Manchester, had no difficulty in being placed first and second.

The foreign birds were in stronger force than usual, and were generally in capital plumage: the Grey Parrots were very good.

The classes for British birds also contained many choice-plumed specimens, and there was no great difficulty in placing the Goldfinch belonging to C. H. Fisher, Esq., of Stroud, Gloucester, first, although the bird that won second honours, shown by Mr. J. Mayo, Gloucester, was very fine. The following is a list of the awards:—

NORWICH (Clear Yellow).—First, H. Sawkins. Second, Miss K. Skay, Very Highly Commended and Commended, H. Sawkins.

NORWICH (Clear Buff).—First, H. Sawkins. Second, J. Mayo. Very Highly Commended, H. Sawkins. Highly Commended, J. Mayo. Commended, W. Shenton.

NORWICH (Variegated).—First, G. Cummings. Second, G. Rawlinson. Very Highly Commended, J. Mayo. Highly Commended, G. Rawlinson; H. Sawkins. Commended, H. Sawkins.

LIZARDS (Golden-spangled).—First and Second, Mrs. Jessop.

LIZARDS (Silver-spangled).—First, Mrs. Jessop. Second, H. Sawkins. CINNAMON.—First, Mrs. Monsell. Second, H. Sawkins. Commended, Mrs. Monsell.

BELGIAN (Clear Yellow).—First and Second, J. Mayo. Very Highly Commended, W. Shenton.

BELGIAN (Clear Buff).—First, W. Shenton. Second and Very Highly Commended, J. Mayo.

BELGIAN (Any variety).—First and Second, J. Mayo.

HALF-BRED BELGIAN.—Yellow.—First, G. Clapham. Second, H. Sawkins. Buff.—First, Mrs. H. Monsell. Second, G. Cummings. Variegated.—First and Second, H. Sawkins.

GOLDFINCH MULES (Mealy).—First, T. Woodman. Second, R. Stone. Very Highly Commended, F. Wilton. Commended, G. Cummings.

COMMON YELLOW.—Prize, Mrs. G. Parry.

COMMON RUFF.—Prize, G. Smith.

COMMON MARKED.—First, G. Clapham. Second, G. Smith.

YELLOW-CRESTED.—First, H. Sawkins. Second, G. Cummings.

BUFF-CRESTED.—First and Second, H. Sawkins.

GOLDFINCH.—First, C. H. Fisher. Second, J. Mayo. Very Highly Commended, C. H. Fisher. Highly Commended, R. Stone.

BULLFINCH.—Prize, G. Clapham.

LINNET.—First and Second, R. Stone.

SMALL BRITISH BIRDS (Any other variety).—Prize, W. G. Cummings.

THURSH.—First, J. Gale. Second, W. Shenton.

LARGE BRITISH BIRDS (Any variety).—Prize, H. Jeffs.

GRASS PARAKEETS.—First, C. H. Fisher. Second, Mrs. Jessop.

SMALL FOREIGN BIRDS (Any other variety).—First, F. Wilton. Second, J. James.

GREY PARROT.—Prize, W. Burnet. Very Highly Commended, C. H. Fisher. Commended, J. Chick.

ANY OTHER VARIETY.—First and Second, Mrs. R. Allan. Very Highly Commended, Mrs. Jessop.

The above competition was confined to the neighbourhood of Gloucester, and the following were open to all England:—

NORWICH (Clear Yellow).—First, G. Moore, Northampton. Second, J. Wynn, Northampton.

NORWICH (Clear Buff).—First, G. Gayton, Northampton. Second, G. Moore.

LIZARD (Golden-spangled).—First, H. Ashton, Manchester. Second, B. Pointon, Basford.

LIZARD (Silver-spangled).—First, B. Pointon. Second, W. Phillips, Basford.

GOLDFINCH MULE (Jouque).—First and Second, H. Ashton.

GOLDFINCH MULE (Mealy).—First, W. L. Chapman, Northampton. Second, B. Pointon.

BEST COLLECTION OF CANARIES IN ONE CAGE.—First and Second, H. Sawkins, Gloucester.

CASE OF STUFFED BIRDS.—First, T. White, Cheltenham. Second, N. Skelton, Cheltenham. Third, J. James, Gloucester. Very Highly Commended, Rev. A. F. Ford, Gloucester.

EXTRA PRIZES FOR POULTRY.—W. Stephens, Gloucester (Silver-spangled Hamburgs); Rev. E. Mansfield, Highnam (Black-breasted Game Bantams); Mrs. G. Parry, Gloucester (Ducks); W. Stephens (Ducks). Highly Commended, Mrs. Parry; W. Stephens.

The awards were made by Mr. George J. Barnesby, of Derby, and gave great satisfaction.

### SUNFLOWER SEED FOR FOWLS.

I HAVE regularly grown a few sunflower plants for the last five or six years for my fowls, and have always found that they eat the seeds greedily, whether these are in or out of the flower, provided only that they are ripe and have a kernel inside, which many of the smaller and immature heads have not; such seeds, consisting only of skin, the fowls will leave untouched. They seem to prefer the black to the light-coloured seeds. They are to be used only as an addition to the other food.—W. D. P.

### ROUP.

HAVING been annoyed several times with that arch-enemy roup among my fowls, I tried every nostrum I could lay my hands upon, but always with considerable loss, till this season I hit upon the following, which has proved successful, not having lost one bird.

Give one table-spoonful of castor oil. My mode of administering this is, perhaps, new. Take a strip of white blotting-paper, 2 inches broad and 3 or 4 inches long, roll this on a pin half an inch in diameter; closing one end like a cartridge paper, withdraw the pin; pour in the oil, close the top with your fore finger, or open the bird's mouth with your left hand, turn the cartridge upside down into the throat and push the whole over with the fore finger. Thus the plumage of the fowl is kept clean. After the oil has operated give twice daily, in the morning early and after the birds have gone to roost, one pill each, consisting of one grain sulphate of iron and three grains of the finest Cayenne pepper, mixed with salt butter into a firm pill. To each pint of drinking water, which must be fresh every morning, put three grains, bruised, of cochineal, and about the size of a nut of camphor. Wash the mouth, nostrils, and eyes with tepid vinegar daily morning and evening.

For chickens I put three grains of cochineal to the pint of water, with a bit of camphor, once a week, giving bread and ale every second day. Young birds thus treated have never shown symptoms of any disease, moult well, and are very strong.—THOMAS SHORT.

### NUTT'S HIVES.

It is common, doubtless, with others, I am glad to find some one who has had experience of Nutt's hive standing forward in its defence. It is clear that your correspondent, Mr. Sedgley, is satisfied with it, as he uses no other. May I ask, if he would kindly give us a little further information? Does he not find the hive troublesome to manage? or after once drawing the ventilators does he leave the bees pretty much to take their chance? Does he find in a series of years any difficulty arising from their non-swarming, and that the queen will perversely die at the wrong season? And, especially, would he have any objection to state the amount of his honey harvest from each hive, say for the last two seasons? From being at one time quite the rage, Nutt's hive has fallen somewhat into disrepute, and as there is a good deal in fashion, it may be that the existing prejudice against it is unreasonable.

Nevertheless, I imagine that the principle is wrong. The natural instincts of the bee, like those of political reformers, seem in favour of vertical and not lateral extension. When a swarm escapes, a hollow tree, or a chimney, is the favourite



selection, forming a long and narrow hive. The arrangement of the comb is, however, far stronger evidence,—“honey above, and brood below” and this, notwithstanding lack of room. If a hive of, say, seven combs, with an overflowing population, is transferred to a longer box, the additional comb will not be used exclusively for storing honey, but will contain brood like the rest; whereas if the habits of the insect are in accordance with the collateral system, we should expect to see the brood cells carried upwards in the middle combs, while the side combs were pure honey. It will be said that the side combs are generally pure honey, but in a non-swarming stock where the space is overcrowded, the side combs, if not already occupied, will certainly be filled with brood rather than the queen will ascend. As to the saving of labour to the bees, and the resemblance in a storified hive to a man carrying a load up two or three pair of stairs, instead of depositing it on the ground floor, there is an obvious fallacy. Men do not go on all sides, and bees do. Bees like to ascend, and many persons fix their landing-boards at a steep slope. Some of the American hives have landing-boards 8 or 9 inches square, and standing at a considerable angle, so that the bees have almost the height of the hive to climb before they enter it. Not having wings one cannot very well say, but it always seems to me that the bee carries her load much easier climbing than flying, especially when the load is pollen. The weight in flying seems out of the centre of gravity, and to hang. The frequent exhaustion of the pollen-carriers is some sort of evidence as to the great labour involved. But certainly any time lost in storing the honey is more than made up by the comparatively rapid building of the combs.

Mr. Sedgley touches a real defect in Nutt's hive, when he says, “Be sure to keep the ventilators closed in the sides boxes till the bees have begun working in them for a few days.” The secretion of wax is mainly a question of temperature. Lower the temperature, and the secretion becomes difficult, lower it still further and it becomes impossible. Has Mr. Sedgley any notes showing the rate of progress in the collateral before and after giving ventilation? And also of his difficulties if he does not pay very close attention to his thermometer? I am only seeking information, and suggest that a genuine record of results would be very welcome to many bee-keepers.—F. H. WEST.

### FEEDING AND TRANSFERRING.

I HAVE a weak stock of bees, now weighing 16½ lbs., in a common straw hive, which I have been feeding every night for the last few weeks with a bottle at the top of the hive, to stimulate breeding (using 3 lbs. of loaf sugar to one pint of water, simmered over a slow fire till dissolved), and when I go in the morning to remove the bottle I always find a quantity of the syrup running out at the entrance of the hive, and some of the bees looking as if they had been spotted with a whitewash brush. I am at a loss to account for this, as it is not the case with any of my other hives, and it has not been so with this until lately. I think there is no fault to be traced to the bottle, as I have used different bottles of various shapes and sizes, with necks varying from 1 to 2½ inches in diameter, and found them all act in the same way when placed over this hive; nor do I think it is the fault of the perforated zinc, upon which I place the inverted bottle, not being perfectly horizontal, in which case I should always find it empty in the morning, but I do not.

Will it now be too late in the season to transfer the bees and combs into a Woodbury frame-hive (I am a pretty good hand at doing this), and then to give them one or two frames of broodcomb from a very strong stock? or I can purchase a stock, which is too weak to survive the winter, from which I can drive the bees, and unite them to the transferred bees, instead of, or as well as, giving them the broodcombs.

Will you tell me how long I may continue, or when to discontinue, feeding for the purpose of stimulating the queen to breed?—A. R.

[The mystery of your bottle is a puzzling one, but something must evidently be wrong somewhere, as the food should not even drop on the floor-board, much less run out at the entrance. Test the bottle by filling it with water, tying its mouth over with net, and then inverting it in mid-air. Held steadily in this position not a drop should fall after the first rush is over. We are, however, inclined to think that in the case in question the sponge is saturated, and will hold no more; or, in other words, that the bees, having filled their combs to repletion, are too few to attempt to extend them, and in this

event, every cell being already filled to overflowing, continued feeding cannot even promote breeding, which is thus rendered impossible. We should, therefore, at once stop the supplies, which appear to do more harm than good.

It is too late in the season to transfer a stock of bees with much probability of success. We cannot, therefore, advise a course which is so likely to end in total disappointment.

Bees should now go into their winter quarters, and be disturbed as little as possible. All feeding, therefore, had better be discontinued forthwith.]

**EGG OF THE MOA, OR DINORNIS.**—We have been requested by Mr. Stevens to draw attention to the sale of a nearly perfect egg of this extinct bird, which is to take place at his Rooms on Friday next, the 24th. According to the Wellington (New Zealand) papers, it appears that a man at Kai Koras was digging the foundation of a house, when on the side of a small mound he suddenly came upon the egg in question, and the skeleton of a man, supposed, of course, to be a Maori. The body had evidently been buried in a sitting posture, and the egg must have been placed in the hands, as when found the arms were extended in such a manner as to bring it immediately opposite the mouth of the deceased. This, it is assumed, was in accordance with the Maori custom, and was done for the purpose of giving the individual who was buried an opportunity of sustaining himself if he thought proper, or if, in the course of things, he required sustenance. Between the legs of the skeleton were found numerous tools, cut from green stone, including a spear, axe, and several implements. The egg itself is about 10 inches in length and 7 in breadth, the shell being of a dirty brownish colour, and rather better than the thickness of a shilling coin. The inside is perfectly clear and free from all traces of decayed matter.

### OUR LETTER BOX.

**MENDING A SICKLE FEATHER (J. C.).**—If the mending of the feather is detected, as it most likely will be, the bird will be disqualified. We believe you joined the feather that broke off to the stump from which it came, but if this were once admitted, less scrupulous persons would break off a white and substitute a black sickle feather. It is not very unusual for a Toulouse Goose to lay now. There is no limit to their laying.

**COCHIN-CHINA COCK (A Subscriber, Hastings).**—As you have tried without benefit bread and ale, and other stimulating food, to strengthen the bird and promote his moulting, we fear that he has ulceration of some of the chief viscera. Do not give castor oil; cod-liver oil might benefit him, and so might four grains of citrate of iron daily, mixed up with the bread and ale, which you had better continue.

**CHICKENS CRAMPED (Constant Subscriber).**—Keep them in a warmer and drier place, give them bread soaked in ale, and one grain of citrate of iron each daily.

**HEATING INCUBATOR (T. M. L.).**—As you cannot have gas, try one or two argand oil lamps. They require abundance of air to support their combustion.

**ULCERS IN RABBITS (R. R.).**—You cannot do better than to open them when nearly suppurating. Then wash the wound with warm water, and apply acetate of lead ointment. The hair should be previously shaved off, so that the ointment may be applied to the skin.

**RABBITS (Rabbit Breeder).**—We recommend you to adopt the Silver Greys—they are good for table, and their skins valuable. Look in our advertising columns, or apply to any of the dealers in birds, &c., in St. Martin's Lane and elsewhere.

**NATIVE HIVES.**—We have a letter directed to “M. D.” which we will forward if he sends us his address.

**PREVENTING HONEY CANDYING (W. H. P.).**—We cannot tell how to prevent honey becoming candied during winter, but it may even then be readily rendered available for feeding-purposes, by subjecting it to a moderate degree of heat, and adding, at the same time, a little water to render it more fluid. It is only in cases of absolute necessity that we should resort to feeding so late in the season, and, therefore, unless in such a case, would advise its being deferred until the spring.

**UNITING AND SHIFTING STOCKS (Idem).**—There is no reason why stocks should not even now be successfully united, but, if they require feeding, no time should be lost about it, as the ultimate success or failure of the experiment must, in this case, depend upon the state of the stocks when winter sets in. Do not move your hives at this season, when the slightest doubt or hesitation on their return home must be fatal to multitudes of the tired and half-chilled little foragers. Gradual shifting should be practised only when bees are in full activity, with sufficient health and strength to remain on the wing until they can find out their home in its new position.

**PARTHENOGENESIS (B. Carr).**—Von Siebold's experiments were repeated and verified by Mr. Woodbury, as related by him in page 77 of the second volume of THE JOURNAL OF HORTICULTURE.

**LIGURIAN BEES—TRIFOLIUM INCARNATUM (S. E. B.).**—Write to T. Woodbury, Esq., Mount Radford, Exeter, respecting Ligurians. We do not believe the Ligurian has a longer tongue than the common bee, and, therefore, doubt its ability to collect honey from any flowers in which it is out of the reach of the ordinary hive bee. *Trifolium incarnatum* is a first-rate bee-flower. Its increasing cultivation in this country has, we believe, not been without its effect on the excellent honey harvests of late years.

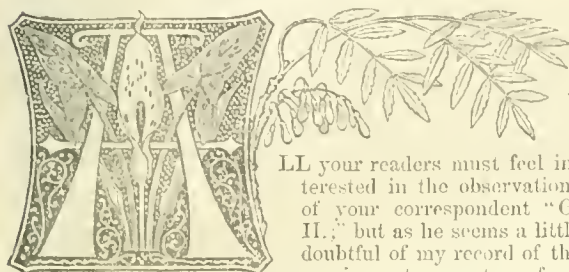
**ENTOMOLOGY (G. W.).**—The “Journal of Entomology” is published monthly by Messrs. Taylor & Francis.

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	NOV. 28—DEC. 4, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.		Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.		m.	s.	
28	TU	Oak leafless.	48.2	34.9	41.5	18	43	7	55	43	40	1	41	1	10	11	45	332
29	W	Greenfinches flock.	47.1	34.3	41.0	19	43	7	54	3	10	2	59	2	11	11	24	333
30	TH	ST. ANDREW.	48.0	34.7	41.3	20	42	7	53	3	44	2	19	4	12	11	3	334
1	F	PRINCESS OF WALES BORN, 1844.	48.4	35.4	41.9	18	46	7	53	3	35	3	38	5	13	10	40	335
2	S	All deciduous trees leafless.	47.7	34.2	40.4	17	48	7	52	3	13	4	53	6	15	10	17	336
3	SUN	ADVENT SUNDAY.	46.3	35.2	41.0	20	49	7	51	3	8	5	2	8	15	9	54	337
4	M	Dandelion flowers.	47.7	35.9	41.8	17	50	7	51	3	10	6	0	9	16	9	29	338

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 47.7°; and its night temperature 34.9°. The greatest heat was 62°, on the 1st, 1857; and the lowest cold, 14°, on the 30th, 1856. The greatest fall of rain was 1.21 inch.

## METEOROLOGY AND VENTILATION OF ORCHARD-HOUSES.



LL your readers must feel interested in the observations of your correspondent "G. II.," but as he seems a little doubtful of my record of the maximum temperature of my

large orchard-house in summer, I have looked into my memoranda.

On August 27th, 1861, I was engaged in watching the ventilation of my large orchard-house, hanging pieces of cotton wadding inside under the apex of the roof, to observe the different currents of the highly rarefied air—it was a hot sunny day—wishing to observe at what part of the house they divided in their egress, the only apertures for which are a triangular space at each end under the gables, the bases of which are about 20 inches in diameter. In doing this I took very accurately the maximum temperature in the shade, in the open air, and in dense shade in the orchard-house. I may observe that my thermometer out of doors is placed 5 feet from the ground, on the north side of a Beech hedge, fully exposed to the winds from the N.E. To make the shade more effectual, some coarse bags several times thick are placed as a cap on the top of the post. I am sometimes inclined to think that it is owing to this densely shaded exposed place, that I find the maximum temperature here lower from 5° to 7° than that given at Chiswick and other places; yet it must be correct as far as this place goes. The maximum temperature of the past summer here was 83° on June 21; at Chiswick, on the same day, it was 89°. Is it that the thermometer at Chiswick is placed among the walled enclosures, with large spaces of gravel reflecting much heat? To return to my experiment on August 27th, 1861; the maximum here in the shade in the open air was 81° on that day. In my large orchard house in the shade, 5 feet from the ground, it was 88°; at 12 feet from the ground in the shade, just under the apex of the roof, it was 96°. I impute the moderate temperature at 5 feet from the ground to the efficiency of the low side ventilation, the shutters, 20 inches wide, opening downwards, and the comparatively cool air rushing in so rapidly as to make the air of the house, although so hot, quite agreeable to breathe.

It will thus be seen that there were only 7° of heat difference between the open air and the large orchard-house. I think as a general rule 10° will be found the average. I believe I have seen it as high as 15°, but I suspect that the thermometer in the house was then under the shade of the foliage only, and not covered with thick bagging, as it was when I made my observations in August, 1861. I was then very careful.

Such, then, have been the results of my experiments on the temperature of an orchard-house 100 feet long by 12 feet high and 24 feet wide. For the register of the ripening of the fruit I must refer your readers to No. 237.

To the assertion that narrow houses, which "G. II." refers to, are retarding-houses, presuming that he means span-roofed houses 14 feet wide, which I have made the minimum of such houses, I can only give in reply bare facts as to the ripening of Peaches and Nectarines in a house of that width. In that house I have half-standard Peaches and Nectarines planted in the borders. I made it in the past season a Cherry-house for trees in pots; and I may, *par parenthese*, mention that no fruit culture has ever given me more pleasure. The Cherries began to ripen in the first week in June. The side shutters, 1 foot wide, opening downwards, were then thrown open, nets placed over the apertures to keep out the birds, and in that state they are to this day, never having been closed all the summer. Well, this, according to "G. II.," should have been a retarding-house, and so it was to a small extent. Let us see. Early York and Early Victoria Peaches ripened a week after those in the large orchard-house. Grosse Mignonne and Galande Peaches, and Violette Hâtive and Elruge Nectarines, a most abundant crop of beautiful fruit, all ripened by the end of the third week in August, and were finer in flavour than any I ever ate.

For amateurs with moderate means, living in the climatic district I have named at page 291, the "small span-roofed house"—(in my little book I so named it, because I soon found that in my narrow houses the draughts were too sharp for continuous summer ventilation; still, I must candidly admit that Peaches ripen well in my span-roofed houses 12 feet wide)—is a cheap and most useful structure. It should be 16 feet high in the centre, 5 feet high at sides, and 14 feet wide; the roof fixed; rafters 20 inches, or with 21-oz. glass, 24 inches asunder; the side shutters or sashes 1 foot wide, on hinges opening downwards. A few words as to how a house of this size should be planted may be acceptable. The method is adapted to those who do not keep a gardener, and consequently wish to abridge labour. In a house of this width a central path should be marked out 6 feet wide; on the edges of this path half-standard trees should be planted 5 feet apart, so that when finished there will be two rows of trees 6 feet apart row from row, and 5 feet apart in the rows. If the house is of any considerable length, say 50 or 60 feet, these two rows of trees will give a good supply of fruit; between the rows and the sides of the house there will, of course, be a four-foot space. This may be appropriated to Apricots, Plums, &c., as bushes, either in pots or planted out in the borders—the latter, if water is not abundant. My house of the dimensions I have described is 60 feet long. In this about six or seven years since I planted two rows of trees, half-standards—i.e., stems from 2½ to 3 feet—on one side twelve Nectarines, on the other twelve Peaches. Although they are fine trees and bear large crops—how beautiful was the Violette Hâtive Nectarine with nearly two hundred fruit on it!—I had plenty of space for a large crop of Cherries, in pots. I have recently removed a few of the Peach trees



but those left show plainly what can be done in "a small span-roofed house" with very little care. The truth is, orchard-house culture is so simplified here, that no extra care was required; everything in the shape of a fruit tree bears well and does well. Ventilation and syringing, like cold water and diet at Malvern, are two great points, to which must be added the summer surface food of malt dust and manure. What power there is in the compost! Our G G's, which may mean great gums or great gardeners, do not, I fear, appreciate it.

While reading about retarding-houses by your correspondent "G. H." and Mr. Fish, and thinking of what our forefathers would have said if any one had proposed to build a glass-roofed house to retard fruit; and if he had done so, and succeeded in keeping back a Noblesse Peach a month or five weeks by planting the tree in a glass-roofed house, he would have been scorched and have had his thumbs squeezed, to have made him confess his obligation to some dabbler in witchcraft—in thinking of these old days of scorching and thumb-squeezing—(I suppose they were necessary to bring about our present happy state; "We are a great people, sir-ee," as the Americans say)—I had nearly forgotten my retarding glass-roofed houses. There are four of them, lean-to's, each about 50 feet long and 12 feet wide. The back walls are fine Beech hedges about thirty years old, carefully clipped; the front walls are ditto, the hedges much younger. In these houses there are dwarf bushes of Peaches and Nectarines planted in the borders to supply shoots for budding in unfavourable seasons. They grow with healthy vigour, require no syringing, and bear fruit in seasons when spring frosts are not too severe. The last season brought out the retarding principle so strongly, that although the idea was old—for had I not written it in my book?—I could not help feeling much interested in it. I now call to mind that the Early York Peach, which ripened in my large houses August 7th, was not ripe in these hedge houses till the second week in September. It was the same with the midseason Peaches; they ripened from a month to five weeks later than those in the houses I have mentioned. Peaches in the open air on dwarf bushes ripened before those in these hedge houses, a very curious fact—rather witchcrafty. I hope my thumbs are safe.

With reference to my notice of "G. H.'s" article in No. 235, I fear I mistook his remark to his French friend respecting the premature rest of his orchard-house trees as a sarcasm, and did him injustice. I also understood him to say that he opened his forcing-house in July night and day, which was certainly most peculiar practice, and I wrote strongly on the subject.

I sometimes think I am like an old horse, accustomed for years to jog along a straight smooth road, with the bridle on his neck, and whenever this is taken in hand with a seeming intent to turn him into a narrow lane, he shakes his head and becomes a little restive, or "rusty" as the people say here. I have no intention of quoting Dr. Bennet or Morton, wishing to keep to orchard-house temperature only as being more to our purpose. In June last, from the 13th to the 18th, we had cold and cloudy weather here, the thermometer more than once sinking to 33° at night in the small span-roofed house which I have mentioned it descended to 40°. In July the minimum temperature out of doors was 40° for some few nights; in the house it was 48°. In August, the lowest temperature out of doors was 35°; in the house—the span-roofed house—it was 43°. Now, then, let us look at the results of these low night temperatures. The Cherries ripened gradually and were of the finest flavour, the trees keeping their leaves till last week. The Peach trees are now (Nov. 16th), full of leaves of a ripe yellow hue, dropping off by thousands when the tree is touched. Now, what can be more perfect success in fruit culture than this, abundance of fine ripe fruit and the trees in the healthiest state possible? They were not syringed after the middle of July, and yet all through August and September their foliage was green and beautiful. Yet according to "G. H.," my recommendation of ventilation night and day in summer has done much mischief, and puts fruit trees to premature rest, from the great inequality of temperature. If I remember correctly, Mitchell and other Australian explorers found in tropical Australia the day temperature from 100° to 120°, hoar frosts in the mornings, and yet the most vigorous tropical vegetation. Depend upon it if we can command such sunny weather in summer, we need not fear our fruit trees being open all night. Black Hamburg Grapes grown here in a house with latticework of laths in front, so as to be always open, are the finest of all, their skins so tender as to melt, and their richness of flavour remarkable.

"G. H." gives us by far too much, and half insinuates

that the 27th of last September was an unfortunate day by which to judge of temperature. I keep closely to my experience gained here, I know of no better mode of acting. As to calculations without experience, they are, as we used to write at school, a "great sea" of conjecture. At Chiswick, on that day the maximum was 78°, minimum 32°. Here it was 69° and 33° (Negretti's instruments are used), out of doors, and 80° and 41° in my large orchard-house. It is curious that the maximum at Chiswick is always above mine, and the minimum below. The last three summers when I have read of the "tremendous heat" in different localities, varying from 90° to 96°, I have always felt strong doubts about where the thermometers were placed. I could never come near by 10° or 12° to these wonderful records of great heat, and have never believed them. In taking the maximum temperature, no walls, no gravel walks, should be near, all should be free exposure, and the thermometer densely shaded.

I have just observed, page 403, the paragraph in which "G. H." gives the great change his trees were subjected to—"95° in the day to 45° at night"—and quotes my being surprised at their not being killed. He has forgotten that he was alluding to his forcing-house, as I understood him. In my houses the very best ripening effects are induced by the great extremes of temperature. If I could control Nature I would have bright sunny days all through June, July, August, and September; the thermometer in my orchard-houses 80° to 90° by day, and 40° to 50° by night. I fully believe such a climate would be perfect in its growing and ripening powers.—THOS. RIVERS.

#### THE NATURAL ORDERS OF PLANTS.—No. I. THE LEGUMINOSÆ.

It seems a little strange that out of the large number of Natural Orders of plants so few should be selected by cultivators as worthy of special collection. When Orchids, and Ferns, and Crassulaceæ, perhaps, have been named, there is scarcely another family represented in our gardens except in the most fragmentary manner, and even then it is without any care or thought having been taken to obtain the species because they were of this or that family. Geraniums are grown not because they belong to the Geraniaceæ, but by reason of their specific qualities; Caladiums are grown not because they are Araceæ plants, but for the sake of their leaves; and so with nearly everything else. A Fern, on the other hand, oftentimes of the most insignificant pretensions, is cherished simply because it is a Fern; and many an Orchid that will not compare for beauty with a spring Crocus receives a select place because of the general honour in which its race is held. Cannot something be done for other large and beautiful families? How delightful it would be, instead of incessantly hearing the cry, "Come and see my fernery"—as if it were something so unusual to see Ferns that our eyes must sparkle with delight at the very thought of a fernery—how delightful it would be, on visiting some new place, or a friend's little floricultural retreat in the country, to hear, instead of the above, some such unaccustomed call as, "Come and see my Epacrids!" Every one loves Ferns, just as every one loves music, but even the Irish melodies played five hundred times running on a piano would become rather tiresome at the last. Let there be ferneries by all means, and Orchid-houses as many as there can be had plants to fill, but it would give more pleasure in the long run if our plant-lovers would try to be more different from one another in their floral hobbies. The advantage to science and to practical horticulture would be immense, since it is only by growing many plants of similar structure side by side, as is done with Ferns and Orchids, that clear and definite knowledge is obtained as to their various likings and requirements. What a charming spectacle a collection of Leguminous plants would make! Every possible variety of habit is found among them; every conceivable diversity of inflorescence and of colour in the corolla; scarcely any two species have leaves exactly alike, and one set of forms or another is to be found in bloom whatever the season of the year. The Leguminosæ present the *beau idéal* of a botanical family. Upon our lawns, mingling with the grass, often springs up that delicate little plant the Bird's-foot (*Ornithopus perpusillus*), so small as to be well nigh hidden among the grass; at the other extreme of dimensions, without leaving the garden enclosure, we have the Robinia and the Wistaria, the Laburnum and the Sophora. In the tropics there are Mimosas so prodigious as to compete in bulk of stem with the Wellingtonias of California! These,



however, I may dismiss with the bare mention, since they do not come within the scope of my present remarks. The simple leaf, the trifoliate, the pinnate, the digitate, all have their illustrations in this beautiful family. Tendrils, spines, thorns, wings, stipules, all may be seen and studied here to perfection: so may the endless modifications of the papilionaceous or butterfly-shaped corolla, and of those of the legume which follows on the demise of the many-hued flowers. Delicious odours, eatable seeds, and an incredible variety of secretions are also found in the Leguminosæ, as witness the gum arabic, Liquorice, Senna, Peas, Beans, lentils, and Brazil-wood; and though last, not least, we have among their varied species some of the most curious examples known of vegetable irritability, as in the Sensitive-plant and in the Humble-plant. If these be not sufficient recommendations to the culture of this race of plants with any one who wants variety, a man must be hard to please indeed.

Beginning with the hardy herbaceous species we shall find a Leguminous plant in the first rank of our spring favourites—namely, the *Orobis vernus*, with pinnate leaves formed of two pairs only of large and pointed leaflets, and racemes of purple flowers. Summer will crowd our borders, if we will, with Lupines in a score of kinds, blue, white, yellow, and pink, and an endless variety of plants belong to such genera as *Astragalus* and *Lathyrus*. The last-named includes the well-known Everlasting Pea and the ubiquitous Sweet Pea. Lupines have several odd features about them. When the seeds of the annual species, and probably of the perennials also, are newly above the soil, and their great fat cotyledons are falling apart, instead of sustaining transplantation, as most other seeds do, they are so averse to it as generally to be destroyed by the attempt—that is, unless effected with the greatest caution. A similar impatience of removal is observable in Peas when coming up, though not in Beans, or at least not to the same extent. Grown up, and with foliage well developed, the Lupine shows a very elegant kind of “vegetable sleep,” the leaflets not merely folding upon the midrib so as to bring the margins in contact, and shut in the surface, but drooping also, each upon its own hinge, so that the leaf while in this state of nocturnal repose, reminds us, in its figure, of a lady’s half-opened parasol. One of the old Roman poets calls these plants *tristesque Lupini*—melancholy Lupines—a name that seems odd for plants ordinarily so gay and cheerful. Tasting the seeds, however, we find them bitter. Those of the white Lupine were anciently cultivated in Italy as pulse, and largely consumed by people of the poorer classes, the corners of whose mouths being drawn down by eating so much bitter food, their faces acquired a dejected appearance, and hence the poet’s epithet.

Peas, in all their forms, are lovely. A collection of British Leguminosæ alone would make a charming flower-border for the grandest garden in the country, for at the head would stand that magnificent plant the good old-fashioned *Lathyrus latifolius*. Whether a good “species,” whatever that may be, as definitions now go, or only a sumptuous improvement, originally developed upon the continent, of that lovely ancient Briton the *L. sylvestris*, so plentiful and so graceful in the woods at Portishead, at the mouth of the Bristol Avon; whatever its descent and history, we may search for many a mile before a worthy rival can be found for it.

Then, how lovely are our native Lotuses and the Hippocrepis that associate so prettily with the Coronillas in representing one of the most elegant forms of inflorescence known to botany. Books call it a “depressed umbel,” correct technically, perhaps, but ugly enough to bring another reproach on nomenclature. It should be called the “coronet,” the circlet, so often golden in hue, being in many cases almost mathematically true, and the proportions of breadth and depth so admirably symmetrical. It is fortunate for one section of botanists that, by the authority of the learned President of the Linnean Society, Genetyllis and Hedaroma are to exist no longer, and that Darwinia is to include both. Would that, conversely, Lotus could be exchanged for something else, in two out of the three applications it now bears. The Lotus of the Nile—that famous tree of fable, which yielded the enebanting berries—and our little golden-tufted pasture-plant are so totally unlike and unconnected, that it may well disconcert beginners, who are often as much perplexed by such echoes as the unfortunate Frenchman was by the endless “box.” Speaking of the Lotus, have you noticed in reference to the specific difference between *L. corniculatus* and *L. major*, both very beautiful plants for garden rockwork, that while the unopened buds of the former are often, indeed ordinarily, deeply suffused

with red, those of the Lotus major are always pure yellow? Colour, as we all know, is of little value in establishing specific distinctions among flowering plants, though of considerable use when we dive into the realms of the Fungi, &c.; yet it is strange that if these two Lotuses be only one species, as thought by many, there should be so odd an extra tinting in the one, and so total a want of it in the other. Every lover of Shakspeare should know these plants; for are they not the curious little spreading clusters of legumes that are intended by him in Crow-toes?

The legumes of the Medicagos and the various species of Scorpiurns, I may mention in passing, are quite enough to reward the cultivator of curious plants. If Grasses be grown for their delicate panicles and spikes, as reasonably may these be for the quaint similitude their varied produce gives in relation to caterpillars and so forth. What does a person totally unacquainted with plants surmise, I wonder, when on going into a seedsman’s shop to make some casual purchase or inquiry, he sees among the names of seeds that are painted on the tiers of little drawers behind the counter, caterpillars, snails, and hedgehogs!—things likely enough to be found in a garden, but not exactly what it would seem either necessary or usual to raise from seed.

Then what lovely shrubs among the hardy Leguminosæ! Cytisus in its hundred kinds, Genistas, and Caraganas, keeping the garden in cheerful heart for months together. Trees, also, are represented in the glorious old Laburnum, well-named in the south the “Golden Chains;” with its counterpart in white, the Silver Chains, or Robinia; and again, with its counterpart in purple, the incomparable Wistaria. What more can an enthusiast in flowers desire? As for the Spartiums, loaded with their golden butterflies, no plants in nature are more showy when fully out; nor is a more powerful contrast afforded by any plant than we find in the universal old Portugal White; the plant, I believe, intended by Cowper, though spoken of by a widely different name, when he describes—

“Hypericum, all bloom, so thick a swarm  
Of flowers like flies, clothing its slender rods;  
That scarce a leaf appears!”

No species of Hypericum answers more than very indifferently to this really picturesque description, whereas Cytisus multitorus it fits exactly. When a writer so recent as Cowper is so little careful in his use of names, we may well find ourselves hampered in discovering what was Milton’s “Hamony,” or old Homer’s “Moly.” This year that queer of lawn trees the Sophora japonica has, in the south of England, shown its flowers; and the long-continued autumn has in Lancashire ripened the pods of the Acacia, here an unusual circumstance.

In-doors the Leguminosæ are even more varied than in the borders. That inexpressibly lovely tribe made up of such genera as Entaxia and Pultenæa leads the way. Then come the odd Holly-leaved Chorcemas and their allies; then the Swainsonias and a host of others with pinnate leaves. All the Acacias, likewise, belong to this family; for although the golden yellow globes may possess little resemblance to a Pea flower, in the matter of legumes there is no organic difference. A good collection of Acacias is as great a treat in early spring as one of Azaleas. For cutting, moreover, they are unequalled; colour, perfume, delicacy of foliage, and long endurance, all being here found in company.

I trust accordingly that the day is not far distant when the hint thrown out above may be somewhat extensively acted upon. A man might have five hundred Leguminosæ for the same money that it costs him to procure miscellaneous plants, and, nicely dispersed, they would be quite as lovely a spectacle as an equal number of Ferns or Orchids; other plants need not be excluded. It would be like a picture-gallery in which works of art in all departments are admitted.—LEO.

## WHO FIRST FRUITED THE MANGOSTEEN IN ENGLAND?

I HAVE read with great interest the articles of “J. H.” on the fruiting of the Mango and Mangosteen. At page 381 “T. N.” says “He was not aware that the latter had been fruited more than once in this country, and that once at Sion House.” “J. H.” in answer to “T. N.” says “I have seen it growing at one or two places, and, many years ago, I saw a tree at Allestree, near Derby, covered with blossom, and which afterwards, I believe, bore some fruit. The tree at Sion House, to which ‘T. N.’ alludes, I only saw once, and then it



was not in flower, but it appeared to me remarkably like *Garcinia mangostana celebica*, a sort which will not fruit in England." Now, as regards the tree at Sion House, about midsummer 1855, a drawing of the Mangosteen appeared in *The Illustrated London News*, where it was stated that it was "considered by those conversant with the difficulties attending the labour, as one of the greatest triumphs of modern horticulture; this being, we believe, the only successful attempt made since the introduction of the plant into England in 1729. It is to the care and skill of Mr. Iveson, head-gardener to the Duke of Northumberland, Sion House, that this successful result of exotic-fruit culture must be mainly attributed."

How many years ago was it that "J. H." saw the tree at Allestree? I will suppose there are those amongst your readers who may have known Walcot Hall, Salop, some thirty-five years ago; if so would they be good enough to assist us with their memory as to whether the Earl Powis of that day was not the first person who fruited the Mangosteen there about that time, and did he not present one of its fruit to T. A. Knight, Esq., of Downton Castle, the then President of the Royal Horticultural Society, as being the first of "all the fruits of the East" ever brought to perfection in England? Such was the fact, I believe; and to all who know what an enthusiast the then Earl was, and to what a practical extent he entered into horticultural experiments at Walcot, they will cease to wonder at any extraordinary achievement having been arrived at there.—UPWARDS AND ONWARDS.

[The Mango was fruited at Walcot in 1826, but we are not aware that the Mangosteen ever was at that place.—EDS.]

## ALPINE PLANTS.

(Concluded from page 357.)

*OXALIS TROPEOLOIDES*, leaves deep purplish brown, flowers bright yellow; effective for rockwork and as an edging plant; loam on gravel.

*OROBUS VERNUS* forms a compact tuft with showy purple flowers, appearing in spring; sandy loam.

*PAPAYER ALPINUM*, leaves finely cut or divided, flowers yellow, on long slender footstalks. *P. nudicaule*, with beautiful clear yellow flowers, may be found effective for grouping in masses; moist turfy loam, peat, and grit.

*PHLOXES*.—Of these *Nelsoni*, white; *frondosa*, pink, with dark centre, and *verna*, rose, are very effective; loam, peat, and sand or grit.

*PLUMBAGO LARPENTE*, with blue flowers, produced in autumn, though usually grown as a tender plant is certainly hardy; loam on gravel, or peat, loam, and grit, well drained in sunny exposures.

*POLYGONUM VACCINIIFOLIUM*, a pretty creeping plant, with erect spikes of pink flowers in autumn; sandy loam.

*POLEMONIUM HUMILE*, dwarf and pretty, flowers purplish; loam on limestone. *P. cœruleum variegatum*, excellent for edging borders.

*POLYGALA CHAMÆBUXUS*, evergreen, flowers yellow, produced in spring, fragrant. *P. vulgaris* forms a showy tuft, with purplish flowers; loam and limestone, and a sunny aspect.

*PRIMULAS*, suitable for rockwork, are numerous. *P. formosa* forms tufts of silvery leaves, and the flower-stems are covered with a white powder and surmounted with clusters of pink, rose, and sometimes crimson flowers. Of this there is a white variety (*alba*), also a stemless form (*acaulis*). Of all the *Primulas* this is the prettiest for ledges of rockwork, kept constantly moist in summer by filtration from above, with perfect drainage at all seasons. *P. viscosa* is a remarkably tree-flowering rosy kind. *P. marginata* has fine large heads of lilac flowers. *P. nivalis* differs little in its general appearance from *P. ciliata*; the flowers, however, are a little less in size and white; and *P. scotica* is nearly like *P. farinosa* but dwarfer, and the flowers have a purple eye. *P. integrifolia* is very dwarf, and has rose-coloured flowers tinged with purple. *P. ciliata* is a dwarf *Auricula*-like plant, having purplish crimson flowers with a yellow eye, and *P. calycina* is likewise dwarf, and has purplish pink flowers. The *Alpine Auriculas* are also fine, and the double varieties of *P. acaulis* of various colours are well known, and do excellently on the moist and rather shady parts of rockwork. All do well under the treatment recommended for *P. farinosa*, except *P. marginata*, which requires to be grown in a somewhat dry situation.

*PYROLA ROTUNDIFOLIA*, flowers large, fragrant, rose-coloured. Only adapted for moist ledges of rockwork. *P. media*, evergreen, flowers creamy white; sandy leaf mould with good drainage, but kept moist, and a shady situation.

*PRUNELLA GRANDIFLORA*, large heads of showy purple flowers; loam and limestone on sunny slopes.

*RANUNCULUS MONTANUS*, flowers large bright yellow. The plant forms a compact tuft, and blooms in spring. *R. alpestris*, flowers white, solitary. The plant forms a dwarf tuft of glossy deep green leaves. Peat, loam, and sand kept moist.

*RHODODENDRON FERRUGINEUM* and *RIESUTUM* are low, shrubby, evergreen species. Fine for rockwork. *R. chamæcistus* is a bushy evergreen, not exceeding 6 inches in height, and has pink flowers.

*SALVIA ARGENTEA*, a fine silvery-leaved bedding plant.

*SANTOLINA ALPINA* forms a dense, prostrate, silvery-grey tuft; light loam and sand, and a warm aspect.

*SAPOONARIA OCTYMOIDES*, with pink flowers produced in abundance; and *S. cœspitosa*, rose; require to be grown in sandy loam kept moist.

*SAUSSUREA ALPINA*, flowers purple, fragrant, leaves silvery beneath; loam, peat, and grit, well drained, but kept moist.

*SAXIFRAGAS* are numerous. I may name *aizoides*, yellow spotted with orange; *S. caryophylla* with large white flowers, plant dwarf and dense; *S. ceratophylla*, white, foliage deeply divided; *S. cymbalaria*, Ivy-like leaves, and sulphur-yellow flowers spotted with orange, produced in long succession; and *S. oppositifolia* with purplish rose flowers, a beautiful plant for the slopes and ledges of rockwork. It likes moist but well-drained loam and gravel, or grit, and a sunny aspect. There are white, rose-coloured, and crimson varieties. *S. palmata* is a fine dwarf species, having large and effective white flowers. *S. cœruleum* produces fine long racemes of white flowers. *S. juniperina*, with yellow flowers, forms a dense tuft; and *S. pectinata*, with silvery-edged foliage, is neat for edgings. Of the other *Saxifrages* the following are well worth a place, as they will grow almost anywhere, forming fine masses of foliage when not in bloom, and being sheets of yellowish or white-spotted flowers at other times—*Saxifraga aizoon*, *Andrewsii*, *agilops*, *aretoides*, *Bucklandii*, *capillaris*, *cœspitosa*, *cristata*, *gœum*, *glacialis*, *hirta*, *hirsuta*, *hypnoides*, *icelandica*, *intacta*, *nervosa*, *nivalis*, *polita*, *pulchella*, *Rhei*, *rotundifolia*, *spatulata*, *tenella*, and *umbrosa* (London Pride). They require moist loam and grit, but they soon leave this material and run over rockwork in all directions.

*SEDUM*.—These, with *Saxifrages* are the most useful of rock or alpine plants. They love the rock, but it must be very porous, and then they quickly fill the chinks and hollows though there may be scarcely a particle of earth. What there is should be sandy loam well drained, and the aspect should be warm. I may name—*album*, *anglicum*, and *albicans*, white; *cœruleum*, lilac; *Forsterianum*, yellow, a plague on our gravel walks here in the Principality; *glaucum*, white (there is another kind called *glaucum* which is yellow, the first being properly, I believe, *Andersoni*); *pallidum*, pale rose; and *pallidum roseum*, a trifle deeper in colour; *purpureum*, purplish rose; *populifolium*, white; *reflexum*, yellow; *rupestre*, yellow; *spurium*, pink; and *virescens*, greenish yellow.

*SEMPERVIVUM ARACHNOIDEUM*, netted like a spider's web, hence its name; *S. californicum*, forming green rosettes, tipped with reddish brown, *globuliferum*, *montanum*, and *tectorum*, require loamy soil and a dry situation.

*SENECIO INCAUX* forms dwarf, dense tufts of very silvery leaves, whiter even than those of *Centaurea candidissima*, and would make the dwarfiest and whitest edging plant known, if it would succeed with the same treatment as bedding plants. Sand with a little loam kept moist.

*SILENE ACAULIS* forms on the Welsh mountains large, dense masses of pink or rose flowers. There is a white variety. *S. maritima alpina*, and *S. alpestris*, are fine, and another of the same type as the last is *S. saxifraga*, both having fine white flowers. *S. Schafta* has numerous pretty pink flowers in autumn. Loam and grit.

*SOLDANELLA MONTANA*, very close to *S. alpina*, but the leaves are larger, and the flowers of a purple, with more blue in it. *S. alpina* has deeply-fringed drooping bells. The leaves are small, roundish, and evergreen. Peat, loam, and grit, well drained, but kept moist.

*STATICE ALPINA*, *caspica*, *sinuata*, and *tatarica*, are pretty for fissures of loam and sand.

*SYMPHYTUM CAUCASICUM*, of dwarf and creeping habit, flowers blue, in spring; loam and sand in fissures.

*Thalictrum anemonoides plenum* is quite a gem, and not less so are *T. alpinum* and *T. aquilegifolium*. Peat, loam, and sand, with grit, in moist fissures.

*Trifolium alpinum*, habit dwarf, and prostrate; flower-heads large, rose-coloured. Loam and grit well drained.

*Veronica candida*, leaves white, fine alike for rockwork and ribbon borders. It will become a favourite. *V. saxatilis*, procumbent, flowers blue; alpestris, alpina, bellidifolia, and maritima are fine. Loam and grit kept moist.

*Vicia argentea* is another hardy white or silvery-foliaged plant, with whitish flowers veined with purple. *V. sylvatica* is common enough, but very beautiful, rambling over rockwork, and festooning trees, and producing an abundance of white flowers pencilled with purple or blue. Loam, leaf soil, and grit.

*Vicia herbacea*, *V. major*, and *V. minor*, in varieties, are suitable for partially shaded places.

*Viola*.—In this genus we have *V. bidora*, yellow; *V. calcarata*, lavender; and *V. cornuta*, variable in colour, in some soils slate-coloured, in others blue, whilst in others again it is more or less of a bluish purple. It is a neat plant for edging beds, continuing in bloom from spring to autumn. Loam and sand, partially shaded.

*Wulfenia carinthiaca*.—Purplish blue; loam, leaf mould, and sand kept moist.—G. ABBEY.

### FAILURE OF GOLDEN-EDGED GERANIUMS IN 1865.

I am glad to see that Mr. Fish and others of your correspondents have recorded their experience with golden-edged Geraniums during the past season, and I now send my mite of information on the same subject. Unfortunately, I am obliged to join the list of those who feel disappointed with these Geraniums, for they have not been at all satisfactory, although the season has been favourable for almost everything else, and the situation where many of them were planted was what I expected would have insured too rank growth, rather than the reverse. Such, however, has not been the case, and like one of your correspondents, I found several of the plants little or no larger when taken up in October than when they were planted in May. Nor can I attribute their failure to planting out too soon, for we seldom had such a favourable time for doing this work, the month of May being showery, and most plants succeeded well; in fact, I think what little growth they did make was made in June, which was an exceedingly hot and dry month; but in July and August we had showery, though warm, growing weather, yet golden-leaved Geraniums certainly made less progress than anything else. This want of vigour seemed to be common to all the kinds which I grew—viz., Golden Chain, Golden Fleece, and Cloth of Gold, with one or two others differing but little if at all from Golden Chain. They were planted in all situations, many in beds of fresh maiden loam that had been excellent meadow land only twelve months ago, and yet they did no better than the others. Two rows of Golden Chain, each about 600 feet long, consisting of old plants that had not been forced or otherwise exhausted before planting out, and which I expected would have grown on rapidly and afforded a good batch of cuttings by the end of August, scarcely gave any. Cloth of Gold and Golden Fleece were much the same. Now, I ask, To what is this to be attributed? Other Geraniums by the side of them grew almost too vigorously, and the same may be said of other plants. Of course, we do not expect the same luxuriance from a variegated Geranium as from a plain-leaved one, but when the latter flourishes more than usually well, we expect that the less robust varieties should not succeed worse than in ordinary years. In the present, I am constrained to say that the golden varieties have done worse than generally, while the silver-edged ones have done well.

It is somewhat difficult to suggest a reason for the failure, it is, perhaps, hardly fair to call a case like mine a failure, still they did not succeed so well as they ought to have done, some plants in less favoured situations absolutely becoming smaller. Can it be that new varieties are wanted? Golden Chain is certainly an old one, and I should like some one to give its history. I have occasionally seen a golden-edged Geranium for thirty years and more. Was it the golden Geranium of the present day? If so, its term of years may be safely said to be expiring fast; yet, usually, there is no disease, even in the past summer few plants died, their growth only remained stationary, as if there was something at fault either in the soil or atmosphere; in my case it must have been in the latter, and

yet other plants did very well. I have on former occasions expressed my opinion that this class of Geraniums do best in a soil where Rhododendrons flourish, but that should not have prevented their growing tolerably well in 1865 where they had done so years before.

In conclusion, I expect that some of us will live to see the golden Geraniums, which form so useful a section for flower garden decoration, superseded by something else equal in habit and colour and more hardy, something that will not annoy us with the inclination to flower, which *Cineraria maritima* has, and which forms so serious a drawback to its use. A compact low-growing plant with foliage somewhat of the colour of the leaf of the common Laurel when well ripened, would be an acquisition. Could not some of the *Viola* or *Ajagas* be coaxed into this condition?—J. ROBINSON.

### CYCLAMENS.

My attention having been repeatedly called to Mr. G. Abbey's paper on the above tribe in your Number for October 10th, in which he speaks of me as the late Mr. J. Atkins, I beg to assure him and my distant friends that I am still in the land of the living, and might possibly have penned a few remarks on his paper (differing in opinion as I do very materially from him on some points contained therein), had I not good reason to believe that a paper on the same subject was in preparation by a more able hand. In reply to "A PRACTICAL INQUIRER" in your Number for November 7th, I beg to say that I have for many years past grown Cyclamen repandum in the open air without further protection than choosing a spot sheltered from keen, cutting, or boisterous winds, and not exposed to the mid-day sun. Thorough drainage is indispensable for this as well as all other Cyclamens; the tubers should be buried in light friable soil some 3 or 4 inches deep, according to the nature of the soil.

As regards odoratum, what is meant by that term? there being no botanically recognised species under that name that I am aware of; but the delightfully-fragrant true Cyclamen europæum frequently passes under that name, also true latifolium and græcum, also some varieties of persicum. All except the last, which require some protection, are perfectly hardy, and will thrive in a similar situation to repandum. Whilst on the subject I would say that, from my own observations, I can fully confirm the remarks of your correspondent "W. X. W." in the same Number of your Journal, as to the native habitat and condition in which Cyclamens are found. Why, therefore, are the tubers subjected to exposure to the atmosphere under cultivation? I have long endeavoured to imitate Nature in this respect by covering the tubers, and with perfect success. It is high time the old traditional mode were exploded.—JAMES ATKINS.

I can confirm your correspondent "W. X. W." in all the points named by him. I was lately in Corsica, where the Cyclamen grows abundantly in its wild state, and most flourishes on steep rocky banks, below deciduous trees, in a soil composed of decayed leaves, especially the needles of the Larch. The corm (which is like a flattish Turnip Radish, about 1½ inch in diameter) is usually, though not invariably, covered 2 or 3 inches; but I think it had always sown itself on the surface and become covered by the shifting soil and falling leaves.

I am satisfied that the Cyclamen would grow well in similar situations on a south bank in any of our southern counties.—D. STEWART.

### AMERICAN BLIGHT ON BEECH HEDGES.

My old garden is crossed by two Beech hedges planted upwards of eighty years ago, and which are about 12 feet high; these are the principal ornaments of the garden, and add to the interest of it by making separate compartments. The originally-planted Apples suffered so much from canker and American blight, that I have been obliged gradually to remove them, and supply their places with about two hundred dwarf and espalier young Apple trees, which are in a very flourishing condition, and, with the exception of one which I immediately burnt, they are free from blight. I could scarcely believe my gardener when he told me that the Beech hedges were full of this American blight, which I had imagined to be only found on the Apple tree; but on examination I found it but too true—the identical blight has occupied, dried up, and killed many branches. It will be impossible to plaister them up or



uae turpentine, as one does with Apples. I am afraid that if I cut in the hedges close to the stems so as to get at the bark they would scarcely recover such treatment, and I cannot bear the idea of losing the hedges, which have been the ornament of the garden since my grandfather planted them; neither do I like to lose my Apples. Will care enable me to keep this enemy from them? or is there any way of fumigating the hedges so as to kill the American blight and not kill the hedge? The experience of others might help me to decide what I ought to do.—G.

[We hope this case will meet due notice from our readers. We have not noticed the American blight on the Beech, but we have seen it on Pears, Quinces, Thorns, Privet, &c. We cleared it from Pear trees by washing with quicklime whitewash. We should be inclined to do the same with these favourite hedges. We would ent them in considerably, not going, however, into the old wood; and then we would make up barrels of lime whitewash as we wanted it, and squirt the whole fence from a syringe having a nozzle valve. If the lime whitewash go through a fine riddle there will be no difficulty in applying it. If the white colour is disagreeable, add soot and fresh cowdung. If applied now these materials will not hurt the hedge, and we have strong faith that the application will clear away the insects. It would be difficult to attempt anything in the way of fumigating; but a piece might be tried, covered with a cloth. If tobacco were too expensive laurel leaves might be tried, burning them, but without flame, so as not to injure the fence. We have more faith in the limewash from fresh lime forcibly applied from a syringe, as then it penetrates among the woolly matter, and either kills or smothers. We shall be glad if our correspondents will state their modes of proceeding in a similar case. The insect descends to the roots in winter; laying these bare and putting quicklime over them might help to destroy the enemy.]

### GRAPE-GROWING IN THE OPEN AIR.

As you have had some very interesting and, as I hope they may prove, profitable articles on Grape growing in the open air, especially "A SURGEON'S NOTES ON GRAPES," in your Number of October 24th, I have just sent off by rail a small box of Grapes addressed to you. All the Grapes which it contains, with the exception of the Verdelho, were grown here on the open wall, without any assistance from glass, up to the 10th of October, when I had some spare lights, 7 feet long, laid over the border on some wood, the object being to keep the roots dry and warm, and to reflect the light and heat on to the wall.

The sorts sent are

1 and 2—two bunches Black Hamburgh.

3 and 4—Esperione, two bunches, grown on a wall.

5—Esperione, grown on a trellis 1 foot or 14 inches from the ground, without any glass, up to the 10th of October, when two short lights were put on a slight framework over them. There were twenty-three bunches in the first year of the Vine's fruiting.

6—Madeira Verdelho, grown in a vinery under Muscats, although very small, is yet a delicious, juicy, rich, and racy Grape. The Vine is very hardy, an immense bearer, admirably adapted for pot culture, and, I should think, for growing out of doors.

The Hamburgs and Esperione Vines (the name of the latter I am not sure of, although of some age, had not, until last year when we came here, given any fruit approaching at all to ripeness. We have had little short of five hundred bunches, averaging nearly, if not quite, half a pound each in actual weight when sent to table, and with some berries of a quarter of an ounce by scales, on less than 50 feet of wall. This is no doubt an extraordinary year, but, I believe, with a little protection, very much may be done in many years.—G. B., Wotton-under-Edge.

P.S.—I must correct an error in the preceding as to the length of wall covered. I find that it measures 22½ yards, or less than 70 feet, not 50, as I stated it, as I forgot to compute the walling taken up by the Royal Muscadine, although the number of bunches named included those and the small trellis Vine. The Muscadines were used by the middle of October; the Hamburgs and Esperione were at their prime three or four weeks ago; we had these and the remainder picked a few days since. I wished to have sent them before, but constant wet has prevented. This, with the cold weather in this high situation (for we are on the Cotswold range, and very nearly the highest ground in Gloucestershire), has injured their

flavour; we have had them for breakfast, lunch, and dinner for a long time, as I quite agree with "J. H. H.'s" remarks as to their excellent, healthful, and nutritious qualities, especially when eaten at the earlier meals.

The few leaves sent with the Grapes and the joint or two of wood were from the Black Hamburgh. Some of the former measured 11 inches across, and in 1864 we had them even larger. I should have had the Esperione thinned, but did not take much trouble about them, not expecting much from what the Grape was in 1864.—G. B.

[No. 1 and 2, Black Hamburgh, are remarkably well ripened; the colour is perfect, and the flavour excellent. Nos. 3, 4, and 5, Esperione, would have been better if they had been more freely thinned, you would then have had not only larger bunches but much larger berries. Verdelho is not up to the mark; the berries should have been very much larger, nearly as large again. It is a fine early Grape.]

### ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 21ST.

FLORAL COMMITTEE.—Although the entries of plants were few on this occasion, the Society may well congratulate itself upon the interesting exhibition. It is most satisfactory to find these fortnightly meetings, even at this time of the year, so well supported by collections of beautiful plants sent by various exhibitors. Thanks to Messrs. Veitch and Ivery, the tables were very well furnished with plants, which made up a very pretty show. Mr. Veitch sent two collections, one consisting of Orchids and other flowering plants, the other a group of several varieties of *Lycaste Skinneri*, and a special certificate was awarded to each collection. Among the Orchids Mr. Dominy's hybrid *Calanthe Veitchii* was very conspicuous. Its beautiful rosy spike of flowers was much admired. Among the *Lycastes* four were selected for notice: *L. superba*, shown on a former occasion and in much better condition, received a first-class certificate; the other three—*grandiflora*, *pallida*, and *purpurata*, were not considered sufficiently distinct. Messrs. Ivery sent a large and beautiful collection of British Ferns; and although most of them had been before, they still formed a very attractive feature of this meeting. Among them were some very fine specimens. A special certificate was awarded them. Messrs. Ivery also sent two new varieties of *Athyrium Filix-femina*, of which *Applebannum*, a crested or tufted form of *Frizelliae*, received a first-class certificate; also *Polystichum parvissimum*. More was said about the specific name than the plant itself. We were taught to form the superlative degree of *parvus* in our juvenile days in quite a different manner. Has the poet's license been granted to the botanist? Mr. Earley, Digswell, brought a pretty plant of *Thunbergia*, *nova species*—at least it was not recognised at the meeting; the flowers were beautifully white, and the foliage bright green. A second-class certificate was awarded to it; when better grown this will make a very useful plant. Messrs. Low, Clapton, exhibited four of the recently introduced *Odontogloss*s. *O. Bluntii* and *O. gloriosum* received first-class certificates in the spring. *O. Alexandrie* and *O. radiatum* received first-class certificates at this meeting. There seems to be some confusion as to the specific names. *O. Bluntii* is by far the most beautiful of the four exhibited. Mr. Bull sent a seedling *Imantophyllum* inferior to *miniata*, also a seedling *Hibiscus*—two small plants with one flower on each plant, deep rose petals, the base of which was marked with dark blotches. The plants were too young for any opinion to be formed of their merits. A nice collection of *Dracenas* came from the Society's garden, consisting of eleven varieties: these formed an interesting group with their varied and graceful foliage. Mr. Graham exhibited a plant of his new *Violet* *The Czar*. The exquisite scent of the flower seems to be the great recommendation. The habit and foliage were coarse and rough in the extreme. Mr. Graham also sent a *Violet* producing two flowers on the footstalk. Perhaps if it continue this habit it may merit the name of *Viola biflora*.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. At this meeting a series of prizes was offered for exhibitions of fruit. Class A was for the best three dishes of dessert Apples, distinct kinds, for which there were seven competitors, who sent twelve exhibitions. The first prize was awarded to Mr. Earley, gardener to Felix Pryor, Esq., Digswell, for Cox's Orange Pippin, Sam Young, and Ribston Pippin; and the second to Mr. Charles Turner, Slough, for Rosemary Russet, Cox's Orange Pippin, and Cornish Gillyflower. The other exhibitors were Messrs. Ivery, of Dorking, Mr. Whiting, of the Deepdene, Mr. Westcott, Dulwich House, Mr. John Cox, Redleaf, and Mr. Ruffett, Brockett Hall. In the collection of Mr. Cox, Sam Young and Golden Harvey were very excellent; but the Old Nonpareil, not sufficiently ripe, militated against the success of the collection.

In Class B, for the best dish of Knight's Monarch Pears, there were three exhibitors; but in every case the fruit was so out of condition that there was no award made. In Class C, for the best dish of Hynshe's Prince of Wales, Mr. Turner, of Slough, was the only exhibitor, and the fruit was so excellent that a first prize was awarded. In Class D, for the best dish of Hynshe's Victoria, Mr. Turner again took first prize with some very good specimens. In Class E, for the best dish of

any other variety, there were twenty exhibitions; and Messrs. Ivory, of Dorking, took first prize with Winter Nelis, while Mr. Ruffett was second with Chaumontel. Mr. Wilson, the Chairman, exhibited a dish of magnificent Chaumontels, very beautifully coloured and of perfect flavour. They were produced on a tree grown in a pot, and kept in an orchard-house till the fruit was fairly set, and afterwards plunged in the open ground, and the result of this treatment was clearly shown to be most successful. Mr. Turner, of Slough, sent a box of very handsome Cox's Orange Pippin, large and beautifully coloured, and the flavour delicious; also fine specimens of Cornish Gilliflower and Blenheim Pippin. Some remarkably fine Shallots were exhibited by Mr. Earley, of Digswell. Messrs. Lucombe, Pince, & Co., of Exeter, sent a fine specimen of that excellent winter Pine, the Smooth-leaved Cayenne. Mr. George Lee, of Clevedon, near Bristol, sent fine specimens of Bon Gustave Pear and Clifton Nonsuch Apple.

**SCIENTIFIC MEETING.**—J. Bateman, Esq., in the chair. The Chairman of the Floral and Fruit Committees having reported the awards, the Rev. M. J. Berkeley proceeded to comment on the subjects exhibited. At the last meeting a letter was read from Mr. Young, gardener to Earl Fitzwilliam, stating that a branch of a Black Frontignan Grape bearing a bunch of white and another of black Grapes was to have been sent, but the branch had arrived too late; it had, however, been kept, and the meeting would see that there were, as stated, two bunches of different colours, produced by different eyes, on the same branch, and both having the Frontignan flavour. The Vine, he had been assured both by the late and present gardener, had never been grafted. Such sports were not uncommon in the Chrysanthemum, and Mr. Berkeley instanced white Beverley becoming Golden Beverley, and Queen of England becoming Striped Queen, &c. Of *Monstera deliciosa*, fruit of which had been shown at the last meeting, from Lady Dorothy Nevill's, at Dargston, it was remarked that the flavour was somewhat like that of a Banana, but not so flat; everybody who had tasted it, however, had complained that little prickles were left in the throat and on the tongue. This, it was thought, might arise from little bundles of raphides or crystals, which were very abundant in the fruit; but on closer examination it was found that there were really bundles of woody tissue, like double-edged swords—not what were generally understood by double-edged swords, but swords having two parallel blades, which, on touching a spring, opened outwards; magnified drawings of these bodies were exhibited to the meeting. A *Thunbergia*, from Mr. Earley, was stated to be the same as *Thunbergia fragrans* of Roxburgh, or very little different from it; and a seedling *Imantophyllum*, from Mr. Bull, to be the same as *I. Aitoni* (*Clivia nobilis*).

Mr. Bateman said that, as an old orchidist, he could not but feel much gratified to see that Orchids formed so large a proportion of the winter-blooming plants shown, for take them away and what remained? Of *Oncidium ornithorhynchum*, or the Bird's-beak *Oncidium*, Mr. Bateman remarked that when he first flowered it he was much surprised, on turning over Humboldt's great work, to find there an exact representation of it, but with yellow instead of pink flowers, which the species actually has. This was only an instance of what errors travellers might easily fall into when they came to arrange at home the materials they had collected abroad; and when the number and diversity of the specimens gathered, the haste with which this had to be done, and when in arranging there was often only the memory to trust to,—when all this was considered, occasional mistakes could not be wondered at. Another instance was cited in which the flowers of one plant were associated with the leaves of another. *Dendrobium Tattonianum*, which came from the northern coast of Australia, and was named after Lord Egerton of Tatton, was then adverted to. Although not apparently very attractive at present, unless examined closely, its blooms were twice as good as they were when first shown, and would, no doubt, be still finer when the plant became larger. The flowers were peculiar in colour, very agreeably fragrant, and the plant could be kept an indefinite length of time in the drawing-room, where he had had a specimen for six weeks without its being any the worse. *Calanthe Veitchii* next occupied attention; it was not a species, but a hybrid, and though all knew what hybridising could effect, still he had hoped that there was a preserve into which the hybridist could not enter, for Orchids were a royal race, and he always rejoiced when any of Mr. Dominy's marriages did not turn out happy. In this *Calanthe*, however, they had really a beautiful winter-flowering plant, as might be seen by the specimen before them, and Mr. Bateman added, Mr. Rucker's houses are extremely gay with it at the present moment. In reference to *Odontoglossum Alexandræ*, sent home by Mr. Weir, the Society's collector, Mr. Bateman remarked that when he saw that it was new and beautiful, he was delighted to name it after the Princess Alexandra; but on visiting Messrs. Low's, at Clapton, whose collector was in the same country as Mr. Weir, he saw *Odontoglossum Bluntii*, a still more beautiful kind, which had been named and described by Professor Reichenbach. He (Mr. Bateman) fearing that the two *Odontoglossums* were the same, wrote to Professor Reichenbach, and was assured that they were perfectly distinct; but after all, the opinion of most of those who had seen the two at the meeting that day was that they were mere varieties of the same species, and if that proved to be the case he would have to fall back on the chivalry of the Germans and the loyalty of the English to preserve the name of *Alexandræ* instead of *Bluntii* for the species. Mr. Bateman, in conclusion, called attention to the collection of *Lycaste Skinneri*, from Mr. Veitch, who had

assured him that it had been grown all the year without fire heat; and Mr. Bateman further remarked that a plant of this *Lycaste* had been grown in his gardener's kitchen for two years, and at the end of that period was even in better health than those in the glass houses. Hence it was a suitable plant for room-decoration.

## INTERNATIONAL HORTICULTURAL EXHIBITION AND BOTANICAL CONGRESS.

We have great pleasure in being enabled to announce that the eminent botanist, Professor De Candolle, of Geneva, has been unanimously elected President of the Botanical Congress to be held in conjunction with the great International Horticultural Exhibition that is to take place in London next year. Such an appointment cannot fail to shed lustre on the proceedings.

## THE CHRYSANTHEMUMS AT MR. FORSYTH'S, STOKE NEWINGTON ROAD.

MR. FORSYTH is well known as a most successful exhibitor of Chrysanthemums, both large-flowering and Pompons, and it was only in our last week's Number that we had to speak in terms of commendation of the numerous fine specimens which he exhibited at the Guildhall show, several of which have suffered severely from the gas and exposure on that occasion. Notwithstanding this drawback, his show-house, 50 feet long by 20 wide, was very gay when we visited it last week. The centre was filled with a mass of various-coloured blooms, whilst all along the side shelves were ranged excellent specimens of Christine, Golden Christine, Alfred Salter, Oliver Cromwell, General Bainbridge, Bernard Palissy, and others, together with Pompons Cedo Nulli, General Canrobert, Mr. Wyness, &c. There were also several fine standard Pompons, among which Bob was remarkable for the fine mass of bloom which it presented; Firefly, a scarlet *Anemone*, was also very striking, besides which there were Cedo Nulli, Miss Nightingale, another fine *Anemone* variety, blush, with a white centre, and several others grown in the same way, and proving very effective. Among the new large-flowering kinds were Virgin Queen, perhaps the purest of all whites; Prince of Wales, with magnificent blooms; Sam Weller; Venus, very beautiful; Mr. Brantley; Lady Carey; Golden Dr. Brock, a very fine bright golden yellow; Golden Ball, another remarkably fine variety; Eve, a pretty sulphur; Albert Helyer, a large rosy purple; King of Denmark, a fine rosy lilac; Mr. Wyness, amaranth; Rannunculus; Lady Carey; Mrs. Kaines; Pink Pearl; Blanche of Castile; Prince of Anemones, large, lilac blush; and Miss Margaret, a fine pure white *Anemone* variety. Of older kinds, Bella Donna, St. Patrick, Bouquet de Fleurs, Jardin des Plantes, Gluck, Orange Perfection, Nonpareil, General Slade, Oliver Cromwell, and many others, were very fine. Among Pompons were White Treveuna, a great acquisition, and Golden Aurora, a fine golden sport of *Aurore Boréale*.

Besides Chrysanthemums, Mr. Forsyth is an extensive grower of bedding plants, and his pits and other glass structures are just now crammed with a large and healthy stock of these. There is a large stock of Christine, Stella, Alma, Mrs. Pollock, and other popular bedding Geraniums, Verbenas, *Anra floribunda* *Calceolarias*, *Lobelias*, *Cinerarias* and *Mignonette* coming into bloom, Intermediate Stocks, &c. Altogether the area covered with glass amounts, we are informed, to nearly an acre, and this extent is likely to be considerably increased next year. However, the great attraction is the Chrysanthemums, and to see these in good condition there is no time to be lost.

## METEOROLOGICAL NOTES.

I THANK your correspondents, Mr. Ross and Mr. Read, for their report at page 421 on the rainfall of their respective districts, in both of which it was short of the quantity that was registered here in October. I find from Mr. Symons's monthly register of rainfall that there are only two or three stations in the kingdom at which so large a quantity has been recorded; and I should have felt uncertain whether some error had not crept into my report had not that report been in a great measure confirmed by the registers of others only a few miles from here. A person living five miles off records 9.28 inches, while in an opposite direction, but somewhat farther off, 7.86 inches are said to have fallen, the gentleman who reports it having for many years done so with great accuracy. At Ashford, about twenty miles from here, 10.45 inches were stated to have fallen during October and the first day in November; while at another place only four miles from us but 5.20 inches are said to have fallen. These discrepancies can only be accounted for by the fact that much of the rain that fell had the appearance of thunder showers, and these might easily fall more plentifully at one place than another. It is most probable that not more than 7 inches fell as a general average over the county, otherwise the floods would have been higher than



they were, and that was higher than for some years. The ground, too, at the commencement of the rainy period, was exceedingly dry, and I think evaporation must have been going on very rapidly at the time the rain fell, or rather between showers, for some excavating that was going on here in a pasture field having a thick sward on the top, revealed the fact (a certainly unusual one), that after 6 inches of rain had fallen the rain had not penetrated that depth into the ground; its progress downwards was afterwards more rapid, even apparently when there was no rain, and since the ground has been thoroughly saturated, the rainfall necessary to create a flood is not more than one-fourth what it was.—J. ROBSON.

### TAKING IMPRESSIONS OF FERNS.

IN an article which appeared in your Journal of the 14th, copied from the *American Gardeners' Monthly*, a plan is recommended for making impressions of Ferns by means of paper sensitised with nitrate of silver.

It does not there state that the paper ought either to be salted or albumenised. If any person wishes to try to albumenise the paper himself, instead of buying it ready prepared, let him take the white of three or four hen's eggs, and to every ounce of white of egg, add half an ounce of water, beat it all up together till it is all frothed, adding ten grains of common salt to every ounce of solution. Previous to beating it up, pour it out in a flat porcelain dish to settle. When all the froth has settled, and there are no hubbles left, take a sheet of paper by two opposite corners and float it on this solution, taking care that the middle part of the paper touches the solution first, then gently lower the corners, leave it on for five or six minutes, then hang it up to dry. If kept thoroughly dry it will last good for a long time.

To sensitise it, dissolve 1 oz. of nitrate of silver in from 8 to 10 ozs. of distilled or pure filtered rain water; float the paper, the albumenised side downwards, for five minutes, taking great care to allow no bubbles to intervene between the paper and the sensitising bath. Hang up to dry in the dark, and place in sheets of blotting paper to press it flat previously to using it. It ought not to be kept more than twenty-four hours before using it. Sponging, or brushing the solution of silver on the paper with a camel's hair brush, does not answer, as it is almost sure to leave streaks, and it washes some of the albumen off before it gets fixed by the nitrate of silver. Print, tone, and fix, as recommended by the *American Journal*; only it is better to take a second impression from the paper, the first being a negative—(i. e., the Fern appearing white on a dark ground)—by printing from it again you obtain a dark Fern on a white ground.

The above process is, however, far more troublesome and costly, and less artistic and durable, than the following:—Obtain some oil paints in tubes. The proper colours can be obtained from F. H. Searle, Stationery Court, Crystal Palace; the most useful being chrome yellow No. 1, Antwerp blue, and burnt sienna. Gum or pin a sheet of foolscap paper on a board. Squeeze from one of the tubes about as much colour as would cover a sixpence of chrome yellow, and about half the quantity of Antwerp blue, and add a few drops of sweet oil (Linca salad oil). Make a dabber of some cotton wool tied up in a rag of cambric or fine calico, and rub the colour over the paper till it is well mixed, and is about the consistency of printer's ink. Then take a Fern leaf, or any other leaf which you wish to copy, lay it on the colour, and dab it well with the dabber on both sides till the colour seems to have covered the leaf all over without looking too wet. Take some plain white paper without any size on it—the best is good white demy, or lining paper used by paper-hangers for ceilings and walls—double the paper, and place the Fern flat between the folds of the paper, rub it carefully with the finger firmly all over, not allowing the leaf to move, then open the sheet of paper and you will find a perfect impression of the leaf. The same leaf will do over and over again if it is only fresh dabbed with colour, and more colour and oil added when the colour is too dry. Of course, by a careful selection of blue and yellow, and toning with red or sienna if required, it is easy to match the exact colour of every leaf, which can be readily told when the colour is first laid on the leaf.

I have used this process with great success in making ornamental paper borders for rooms. It is exceedingly quick work when once the proper consistency for the colour is found, and a few experiments will enable any one to do this. Stems can be painted in afterwards to join the foliage together, and any

imperfections can be filled in with ordinary water colours, if a little oxgall is used. Very beautiful effects can be produced, too, by printing lightly and painting in shadow with water colours, or, if a leaf is much veined, printing in a dark colour, then washing the impression over with a light colour in water colours. By printing leaves in varieties of colours, tipping the ends of Ferns with brown or sienna, and painting in the stems artistically, very striking effects may be produced.

The great advantage of this over the photographic process is, that being printed in oil the impression is quite permanent, no washing, fixing, or after-toning is required, and with three tubes of colour, costing 6d. each, and wall-lining paper from 1s. to 1s. 6d. per piece of twelve yards, many hundreds of impressions can be taken, and any size or shape of paper can be used, whereas in photography you are limited by the size of the porcelain floating-bath. It is of great advantage in wood or stone carving where an accurate shape of leaf is required, as one can take specimens during the summer of any kind of foliage, and they are much easier to carve from than dried leaves, as they are much less perishable.—X. Y. Z.

### MRS. PINCE'S BLACK MUSCAT GRAPE.

THREE years ago Mr. Pince, of Exeter, sent us a bunch of a seedling Black Muscat Grape, which we noticed at the time as being a great acquisition even to our present numerous varieties. Last week we were favoured with another bunch, and, if possible, we are even better satisfied with the character and merits of this excellent Grape than we were on the former occasion. It is a true Black Muscat, producing berries and bunches as large as those of the Muscat Hamburg; but the skin is thicker and more tough than in that variety, and the berries are borne on much more rigid, robust, and short footstalks. The whole aspect of the Grape leads one to believe that it possesses an exceedingly hardy constitution; and its stout, thick, green stalks, and tough membranous skin indicate that it is one that will hang as long as the latest. The Muscat flavour is as powerful as in any other Muscat.

### WHAT MAY BE SEEN IN VILLA GARDENS.

It is very interesting and instructive to walk through some suburban neighbourhoods and see how the residents turn their little gardens to account. It is to me a source of never-ending study, and I am free to confess that I have derived many very useful hints from what was done in these humble but attractive gardens.

In gardening we have our large marketing establishments, which are managed generally upon strictly commercial principles, and, again, we have many private gardens, which are, to a certain extent, expected to prove remunerative; but I apprehend, when we come to villa and cottage gardens, that we in them see a source of more pleasure than is afforded by any of the others to which I have just referred. As it is on the banks of the smaller streams throughout the country, away from the seats of ceaseless industry, that we generally find the beauties of nature most fully displayed; so in the gardens of villas, whose occupants for the most part have retired from active life, we find a greater variety of taste and decorative ingenuity than in larger gardens, and those managed more according to the practical and scientific rules of horticulture.

I will here attempt to describe how a few of these villa gardens are decorated. The variety of taste which exists is often very amusing, if not at times instructive. I know one villa garden which is scarcely one-eighth of an acre in extent, and the cottage is nearly in the middle of the garden; at one side are a few Lombardy Poplars to screen the view of adjoining premises; then there are a few Weeping Willows, which overhang a good part of one side of the garden; and along the side next to the street, growing entwined in the palings, and overtopping it, is a hedge of Laurustinus, intermixed with some Sweet Briars, which greatly assist in giving a sweet refreshing air to the little place, and remind us of rural scenes.

Now, this small garden, of which about two-thirds is more or less overhung by trees from 25 to 40 feet high, would be regarded by many as a hopeless position for successful flower gardening, but not so with the occupant of this snug retreat; and his case is one of a series of instances which I hope to describe, of how one person often overcomes difficulties which to another would appear insurmountable, and finds a source of pleasure and contentment in doing so. The little hedge of

Laurustinus is upon the south or entrance side, and about 6 yards from the porch of the thickly-covered thatched cottage, of which the bedroom windows have a small but deeply-thatched ridge roof of their own. A space near the door, and a small portion of the walk, are laid down in small pebbly stones of various colours and sizes, the rest of the walks are gravel. Some of the small beds have Box-edgings about 1 foot high, but for the most part the walks are edged with shells. Here are several circular beds, in which are grown during summer Geraniums, and other gay-flowering plants, and in winter some Wallflowers, edged with Crocuses, &c. Fastened in the soil of some of these circular beds are three iron rods meeting over the centre of the bed at 4 feet high, and surmounted by a vase containing gay-flowering plants all summer, and Wallflowers, or Periwinkles, and Crocuses in winter. These supports of iron are ornamented with different ornamental shells, fixed on with cement, and the vases likewise are curiously ornamented with various-coloured shells; and upon the shell-encased iron supports, during summer flowering plants are trained up, such as *Tropaeolum canariense*, or common Nasturtiums, with a few *Convolvulus* intertwined.

Looking a little beyond we see a figure in shells of a man not much larger than Tom Thumb, and having his arms stretched out, and for a hat a vase covered with curious and interesting shells artistically arranged, and filled with Tom Thumb Geraniums, their green foliage and bright scarlet flowers contrasting well with the white shells sparkling in the sun. Upon little pedestals, but not in beds, are placed at some corners shell vases very tastefully ornamented, care being always taken to have a great variety in the colour of the shells. Then, again, farther back in the shade of the trees are figures in shells of some birds and small animals; the owl, the peacock, &c., roosting upon a low branch. At each end of the garden, under the shade of some shrubs, is an arbour-like summer-house decorated with shells, and its sofa-like arms, are also thus ornamented. The occupant has often told me how he enjoys sitting in this shrub-covered, shell-adorned alcove during summer, and seeing what numbers of persons look over the low front hedge at his curious and interesting handiwork. The various remarks which are made by the passers-by give him much amusement. By the aid of iron, cement, shells, &c., this style of ornamentation might be carried to any extent, and small as the garden is, I scarcely ever saw children pass by it without looking in.

In the same neighbourhood, but not overshadowed by trees, I have often admired a small garden which seemed to give the owner great pleasure and amusement. Here the boundaries are composed of various shrubs, which are allowed to grow rather high, 10 or 12 feet, but all are neatly kept. The ground is in grass, excepting a small walk for convenience in wet weather. The occupant here seems to delight in smoothly-kept grass, and well-kept shrubs, and has a fair practical knowledge of the more useful and common sorts, and their seasons of flowering. Such a garden may be more appropriately termed a winter garden than a summer one, for in the cold winter months evergreens and grass can be made, and generally are, nearly as attractive as in summer.

Among evergreens suitable for planting in gardens such as that above referred to, are the various sections of the *Hollies*, the foliage of which gives such a diversified appearance when judiciously introduced among other shrubs. The *Aucuba japonica*, with its deep green and yellow-blotched leaves, looks well under the shade of high trees; and the *Laurustinus*, which is easily kept low by cutting-in about the month of May, will continue flowering from October to April, and is quite a treasure during winter. Besides these a few of the more upright-growing kinds of shrubs may be planted, to give a pleasing variety and contrast; and among such I may name the Chinese Junipers, some *Cypresses*, and a few plants of *Cedrus deodara*. Until I had seen how graceful an appearance the *Deodar* had in its young state in many villa gardens, and the pleasure which it gave the proprietors, especially when it was planted among evergreens, I was rather unfavourable to the planting of forest trees in the gardens of villa residences. It must, however, be borne in mind that these gardens are not planted or decorated for the generations to come, but for the pleasure of the present one, and should these evergreens grow too large let the next generation cut them down, or remove them to where they can fully develop themselves. The gracefully drooping branches of the *Deodar* make it a great favourite with every one, and in every stage of its growth.

The occupier of the villa above referred to, and which is

situated at the junction of two streets, may be seen during some portion of every fine day deriving health and pleasure from attending to his little favourites. The extent of the garden may be about one-twentieth of an acre, and the walks are very narrow and low for the beds, some of which are banked up along the sides from 12 to 18 inches with stones and soil, but all over-grown with *Stonocrops*. Other portions of the walks have Box-edgings holding up the soil in the small beds, which are none of them more than 4 feet wide. Here are strangely-shaped little vases, some having old men's faces upon them, as well as other figures, and all are filled with some variety of *Sedum*, generally grown hanging down over the sides of the vase. A great number of flowering plants are grown considering the small space which the beds occupy, in consequence of the ground being so rich and so carefully cleaned, watered, and otherwise attended to. Splendid *Balsams*, *Marigolds*, and *Asters*, are grown from seed in the small beds, and when I went past the garden in the end of October it was very gay with *Chrysanthemums*. These are all closely tied to one stake, forming before flowering a close green mass, but are now all more or less displaying the various colours of their flowers.

The possessors of the gardens which I have described, had, no doubt, spent the more active portion of their lives in business, but are now enjoying the quiet of their villa residences, and pursue horticulture on a humble scale as a means of recreation.—G. Dawson.

## THE MODERN PEACH-PRUNER.—No. 18.

### ORCHARD-HOUSE PRUNING AND TRAINING.

It is evident that this summer stopping of the shoots to four leaves is not only well adapted to trees on the open wall, but, as it economises space, time, and labour, it is also equally well suited for wall trees in orchard-houses. To show that this is possible, and easy to accomplish in either case, is one main object of this work. To reduce Peach-pruning to its simplest and most natural elements, is to do away with all the needless and wasteful appliances which have hitherto been such hindrances to amateurs. In orchard-houses, especially, it is desirable to make use of a system combining simplicity of detail with a saving of time and physical labour, both of which amateurs have not always at their command.

Considering the immense advance in Peach culture which those invaluable structures, orchard-houses, have produced, and how many of them are chiefly managed by amateurs, it is evident that such laborious contrivances as ties, and such needless complications as disbudbing (too often insisted on, even by excellent pruners), must end in wearying and disgusting many to whom the orchard-house would prove a pure and innocent enjoyment. Neither would it be advisable to have one method of pruning, close, for in-doors, and another, long, for the open air. This would create confusion, and hinder progress. It is a mistake to suppose that wall trees and espaliers under glass, or in the open air, require any substantial difference in their mode of treatment.

The case of potted trees, such as hushes, flat-topped or pyramids, presents no greater difficulty. The shoots on all bush trees in pots should be stopped at three leaves—i. e., one leaf shorter than on more developed forms on walls, as soon as five full-sized leaves have been formed. The object is to allow the sap to habituate itself to this, its natural channel, and thus permit the shoot to become somewhat hard before it be shortened. The upper buds will soon burst forth into a second growth. Generally, only the upper two buds will thus burst, but, in the case of strong vertical shoots, all three may do so. This is no great matter for trees under glass, where they are sheltered from atmospheric changes, and especially saved from any rank growth caused by a sunless and rainy summer. In the open air it would not be desirable to cause all the buds thus to burst, as was the case in the original system, because, in cold and humid climates, we could not depend on a crop formed entirely on the junction buds; and we thus require, in addition, to have a good triple group lower down the shoot, which is obtained by pruning to four leaves, as before said. In the case, however, of bushes, restrained in their growth in pots, and under complete control in their root-development, pruning to three leaves will be found the best.

Soon afterwards the second growth will push forth, and it will be necessary to arrest it somewhat abruptly, so as to con-



concentrate the invaluable spring sap upon the lowest buds for a week or two. This space of time ought, in the orchard-house, to constitute them well. The second growth then should be stopped at two leaves, as soon as three leaves are formed.

Stopping the third growth is not very important. It may be checked at two leaves if the shoots prosper; but should the tree appear generally too feeble, arising from undue cropping or from attacks of insects, it would be best to allow the third growth to extend in proportion. The pruner will soon know when to check and when to allow growth. It is also evident that the shoots on the lower portions of the bush trees, and especially under the branches, will not be so vigorous as those near the extremities, which receive so much sap, and are so much nearer to the glass; therefore on these lower parts the pruner will expect only cluster spurs, which must not be touched, and, in the central portions, barren spray. This last disagreeable type of shoot should be removed whenever possible. It is considered by some as a proof of degeneration in the tree; by others it is considered as able to bear. It cannot, however, be utilised, having no terminal leaf bud, which it is necessary for every class of shoot left to have. Shoots well placed on the lower portions of bush trees, if not crowding towards the centre, which should always be left open to the sun and air, are very valuable, and should be carefully looked after. In lofty houses, however, from the tendency of the sap to ascend, the lower portions of bush trees of a certain age and size cannot be depended on. All Peach growers agree that fruit on the lower branches is not of the best quality. The shoots, therefore, placed low down must be as well exposed to the sun as possible. Bush trees in low houses, having their centres well exposed, ought, however, to produce fair crops. Advantage should be taken of shoots springing low down to remodel the tree, and, of course, these shoots must not be pruned.



Fig. 20.

Bushes appear to most advantage when symmetrical and well balanced. Training *en gobelet*, or U-shaped, allows a large number of leading branches to spring as low down from one central main stem as is practically useful. Another excellent form is to develop three strong branches, and, when these have reached to about 12 inches, to group on each a sufficient number of lateral branches so as to form a good circle. From these lateral branches other vertical ones may be carried upwards. Several seasons being required for this form, the tree is kept well under command.

Flat-topped trees in pots form a valuable class. Slightly pendulous, which is natural to some Peaches, they bear fine fruit. Intermingled with bush trees they allow these last more lateral scope, and they suit the loftier portions of the house. The pruning of their shoots is similar to that of bushes. The only difference consists in keeping down those shoots inclined to be vertical, and in watching to cut out gross shoots.

Pyramidal trees in pots are the trees most under command. They should not be carried very high, about 6 or 8 feet is the most manageable height. The lower parts are always apt to

languish. As the object is also to form these portions, the first pruning of the shoots, on the upper third of the pyramid, might be to three leaves, the middle third might be allowed one leaf more, and the lowest third be pruned to five leaves. The second stopping, in all cases, should be more abrupt, and be at two more leaves of the second growth. The point of the pyramid should never greatly predominate. All this pruning is easy to accomplish, and the summer and winter work can be done with a pair of scissors, kept as sharp as possible. This is much the best way of shortening such close-lying shoots. Old-fashioned pruners will not readily abjure the use of the fatal knife, which is only useful to trim those larger branches which must sometimes be sawn away. When this is done let the pruner remove the branch entirely, and quite close to the part left. With this exception, a pair of scissors kept very sharp, and about 4 inches long, have served for the whole of my trees of every kind for years, both in-doors and in the open air.



Fig. 21.

In figs. 20 and 21 we have three types of shoots which are most common on bush trees, after being several seasons in pots. They are taken from photographs. In either of them we readily recognise the shorter shoot, a certain fruit-bearer in the orchard-house, class 5. In fig. 20 we have, besides, the shoot called fruit spray, class 7. This is also a common and productive type, having single fruit buds and a terminal leaf bud. It is common on old trees to see whole branches whose office seems only to be to carry these fruit-bearers, which must not be pruned. Fig. 21 is given mainly to show the short and beautiful shoot of class 2, fruit shoot properly so called. In long pruning this is the mainstay of the system. It is rarely seen so short out of doors, but being photographed from the Stanwick Nectarine, which is a very strong-growing tree, it seems like fruit spray passing into another type, through the vigour of the sap. In all these specimens the pruner will notice with pleasure that there is a terminal leaf bud, and also a good bud well placed low down the shoot, so that it is easy to secure new wood for next season without extending the shoot too much. This is the very closest style of pruning possible in the Peach.—T. C. BRIDGEMAN.

## ARCHERFIELD.

(Concluded from page 426.)

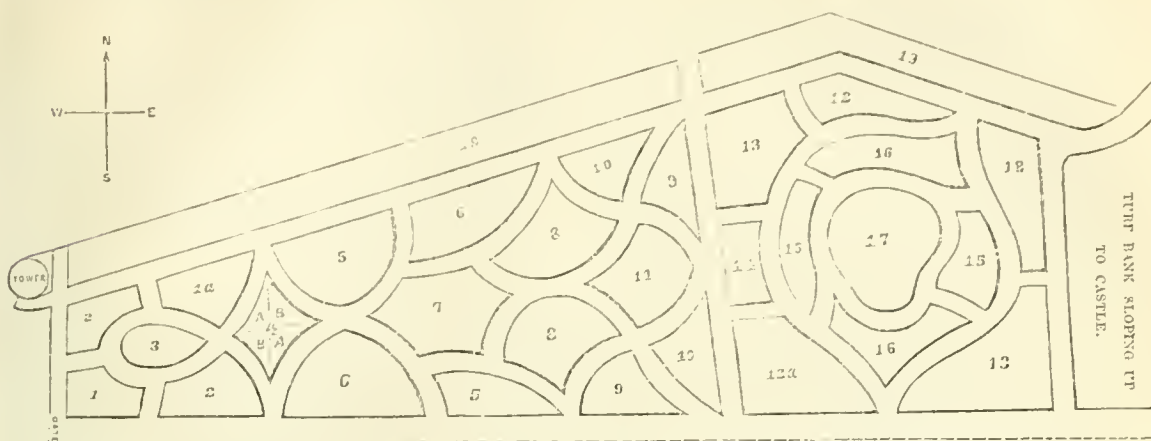
MANY other objects in the kitchen garden deserve attention. The border fronting the long Peach-house was also ornamented with bedding plants, *Tritoma nvaria* being very conspicuous, but as time presses, and there is another garden still more brilliant in its massing, we make our way to Dirleton Castle, which is distant from the kitchen garden nearly two miles.

Dirleton Castle, like many similar strongholds in Scotland, and in the English border counties, has a history of its own, and was inhabited at a time when the site of the present mansion was used as a place for the practice of archery; but as a defensive position it was less assisted by Nature than its more famous neighbour, Tantallon Castle, which stands on the coast a few miles off. Dirleton, however, occupies a slightly elevated position, and though now a ruin, there are traces of a

moat and other defences, massive stone walls, a large hall, or rather the site of what was one, and some smaller arched recesses, with the remnants of a staircase, &c. Surrounding this

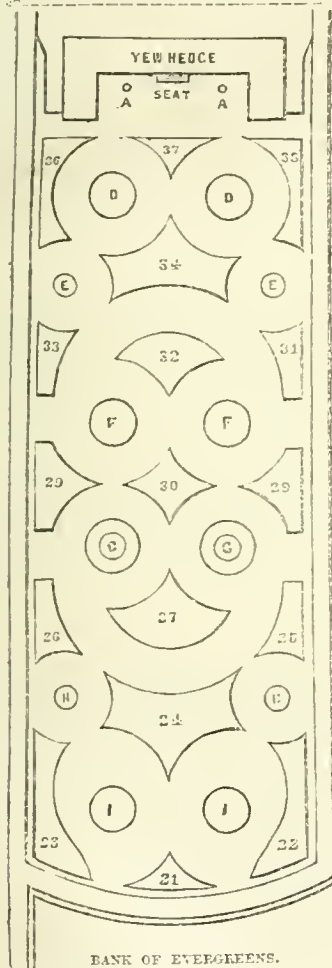
remnant of a former age, are some of the best examples of modern flower gardening, together with others of a style some two centuries old, and the whole is in the best possible keeping.

FLOWER GARDEN AT ARCHERFIELD ADJOINING DIRLETON CASTLE.



BEECH HEDGE, WITH AN ELEVATED WALK.

Masses of Trees and Shrubs enclosing bowling-green, surrounded by Yew edge.



BANK OF EVERGREENS.

however, of the plants which occupied the beds made full compensation for the want of symmetry in the figure. This garden, it is necessary to state, is completely shut in by high boundary lines, and, possibly, may have been the kitchen garden to the Castle many generations ago. A wall 220 feet long runs along the northern boundary, where it is covered with Roses, Myrtles, Magnolias, Wistarias, &c., as well as along the western one. There is a round tower at the north-western corner, and the entrance is a little to the south of this and from a sort of public green sufficiently large for all athletic sports, without being an ugly waste. A number of dwellings are scattered around this green, being, in fact, Dirleton village. The entrance to the garden, as shown on the plan, is where the two flower garden compartments unite, but it will be better to describe the northern one first. I believe but few could enter the door without being struck with the extraordinary blaze of colour spread out before them; even those who are well versed in the art of bedding for effect, and have followed it for years with success, have been compelled to confess they never saw the like before. The plants employed, as will be seen, were kinds well known and generally used elsewhere, but here they seemed to be possessed of more than ordinary powers of furnishing bloom, for excepting in some cases where annuals of a certain class have produced a mass for a very limited time, I never saw so much bloom on any other class of plants, and the arrangement as to height and harmony of colour was faultless. Subjoined is the planting of the northern garden:—

- No. 1. Geranium Little David (scarlet), edged with Cloth of Gold Geranium.
- 1a. Geranium Perfection (scarlet), edged in like manner with Cloth of Gold.
2. Verbena Purple King, with a double row of Geranium Silver Queen round the edge.
3. Calceolaria Aurantia multiflora, edged with Perilla.
4. Intersection of the bed Centaurea candidissima, or, as Mr. Thomson has it, C. ragusina. The quarters, A A, are planted with Geranium Christine; and B B, with Calceolaria Ambassador, a crimson variety; and around the whole is a band of silver-edged Geranium, Queen of Queens, and outside of that Golden Chain Geranium, with an edging of Lobelia speciosa.
5. Verbena Charwoodii, an old plum-coloured variety, far exceeding many newer ones in habit and brilliancy of colouring. A large breadth of this occupied the centre of the bed, and around it were a band of Variegated Alyssum, and two rows of Lobelia Paxtoniana as an edging.

The plan of the garden, as given above, shows a piece of ground irregular in its outline, and divided on the north side into a set of beds, having gravel walks between them of the uniform width of 3½ or 4 feet; but the irregularity of the plot prevents the beds assuming that uniformity of outline which gives beauty to this class of ornamental gardening when seen from an eminence, or when laid down on paper. The brilliancy,



- No. 6. 9. In the one, *Geranium Glendinning's Scarlet*, a somewhat strong grower, edged with *Ageratum* in two rows; and in the other *Geranium Vivid*, also scarlet, edged in the same way.
7. *Geranium Bijou*, silver edged, in the centre; a band of five rows of *Lobelia* and *Gazania* mixed, with a margin of *Golden Chain*, and a specimen plant of *Centaurea* at every 8 feet in the line.
8. *Calceolaria Aurantia multiflora*, edged with *Perilla*.
9. *Geranium Christine* in the centre, with an edging of three rows of *Verbena Charwoodii*.
10. *Verbena Purple King* in the centre, edged with two rows of *Geranium Flower of Spring*, a silver-edged variety.
11. *Geranium Stella* in the centre, with one row of *Geranium Flower of Spring*, and a row of *Lobelia speciosa* and *Gazania* mixed next the Box edging.
12. *Geranium Stella* in the centre, with two rows of *Geranium Madame Vaucher* next the Box edging.
- 12a. *Geranium Tom Thumb* in the centre, with three rows of Variegated *Alyssum* as an edging.
13. *Verbena Crimson King* in the centre, then two rows of Variegated *Alyssum*, and one row of dark-leaved *Oxalis* next the Box edging.
- 13a. *Verbena crimson seedling*, the same as the above, with two rows of variegated *Polemonium*, instead of *Alyssum*, and one row of dark *Oxalis*.
14. *Centaurea ragusina* in the centre, then a line of *Lobelia speciosa*, and an edging of *Geranium Cloth of Gold*.
15. *Geranium Trentham Rose* in the centre, with two rows of *Purple King Verbena* as an edging.
16. *Calceolaria Aurantia multiflora*, edged with *Perilla*.
17. *Geranium Flower of Spring* in the centre, with five rows of *Lobelia* and *Gazania* mixed around it, and an outer edging of *Golden Chain Geranium*.
18. *Lobelia*, a good blue seedling, speckled with *Gazania*, and an edging of *Cerastium*.
19. Border next boundary wall, which, beginning at the Box-edging, was planted thus:—
- 1st line.—*Arabis lucida aureo-variegata*.
- 2nd, 3rd, 4th, and 5th lines.—*Lobelia*, a pale blue variety, forming a broad mass, having single specimen plants of *Centaurea* at 3 feet apart.
- 6th line.—*Geranium Mrs. Pollock*; and in the same line Irish Yews are placed at 24 feet apart.
- 7th line.—*Geranium Little David* (scarlet).
- 8th line.—*Geranium Christine*, alternately with silver-edged *Geranium Flower of Spring*.
- 9th line.—*Geraniums Vivid* and *Madame Chardine* alternately; both strong growers.
- 10th line.—*Tritoma uvaria* in fine flower.

The southern boundary to this garden is a fine Beech hedge, clipped as closely and as truly as a wall could be built. At the east end are the remains of the old Castle; the sloping turf forms a good finish to the garden in this direction, and from the elevated position of the building the flower-beds have a magnificent appearance. The view in the opposite direction commands an extensive range of well-cultivated country, of the rocky mound of Berwick Law, some 110 feet high, and beyond that of the Bass Rock about the same elevation, while all the intervening country is level, and smiling with the most productive crops of grain. Looking westward the view is over an equally fertile district extending to the hills which encircle the Scottish metropolis; southward the Lammermuir hills may be seen in the distance; while northward the broad estuary of the Forth, and the opposite coast of Fife, form the most imposing features. Leaving to antiquarians the task of describing the Castle and its history, and making our way to the entrance, let us describe the flower garden, on turf, on the west side. This garden has the advantage of being more regular in outline than that just described, and presents a more pleasing aspect on paper. It is also surrounded by features defining it clearly from other objects, and, as will be seen, its arrangements are purely geometrical. Beginning with the flower-beds as numbered on the plan, they are planted as follows:—

21. *Geranium Sutton's Perfection*, edged with *Geranium Madame Chardine*.
22. 23. *Geranium Bijou*, edged with blue *Lobelia speciosa*.
24. *Calceolaria canariensis*, edged with *Lobelia speciosa*.
25. *Geranium Little David*, edged with *Golden Chain*.
26. Same as No. 25.

27. *Verbena Purple King*, edged with *Geranium Flower of Spring*.
29. 29. *Calceolaria canariensis*, edged with blue *Lobelia*.
30. Intersected with a line of *Centaurea ragusina*, and right and left of this a line of *Geranium Christine*; the remainder is filled in with *Scarlet Geraniums*.
31. Same as Nos. 25 and 26.
32. Same as No. 27.
33. Same as Nos. 25, 26, and 31.
34. Same as No. 24.
35. 36. *Geranium Queen of Queens*, edged with *Lobelia*.
37. Same as No. 21.

A. A. Two vases in a recess of evergreens, with a seat between them.

- D. D. *Araucaria imbricata*, each 30 feet high.
- E. E. *Cupressus Lawsoniana*.
- F. F. Irish Yews.
- G. G. *Cedrus deodara*.
- H. H. *Araucaria imbricata*.
- I. I. Irish Yews.

The oblong gardens above described both abut on a wilderness or shrubbery adjoining the Beech hedge. This wilderness is intersected by walks curving in various directions; but there is an open space partly surrounded by a piece of old Yew hedge, where a bowling-green is formed, and no better place could be found for it. The remainder of the ground is more or less covered with trees and shrubs, with a fair sprinkling of Ferns, running up to the base of the old castle. Some aged Yews must have seen several generations of the human family pass away since they erected their sombre heads; nevertheless, they were probably planted subsequent to the troublesome times when such fortified dwellings were necessary. I find, however, that I must take leave of Dirlerton, and again casting a wondering look at the many-coloured parterre on the north side, I leave this enchanting spot. I made, however, notes of a few plants, which Mr. Thomson grows most successfully, and of those of which he has a greater stock than most people, and these notes I now offer.

*Centaurea ragusina*.—Leaving it to botanists to decide whether the specific name above given, or *candidissima*, is the right one, there seems no doubt but they are both the same. The plant seems to thrive remarkably well here, and whole lines of it are uniform in shape, and the leaves are free from that curling-up and dying to which they are subject in so many places. It is one of the greatest acquisitions to the garden, and by its convenient habit suits any combination of plants.

*Polemonium coeruleum variegatum*.—This plant, as Mr. Thomson has elsewhere described, resembles a Fern, its fine pinnated leaves gracefully falling over each other; and each being tipped with a broad margin of white, occupying fully two-thirds of the leaf, it has a neat and handsome appearance. In habit it will assort with *Lobelias* and plants of similar growth, and Mr. Thomson states that it rarely runs to seed. The liability to do this is a great defect with *Cineraria maritima* and some other ornamental-foliaged plants. It cannot fail to be popular wherever it is known.

*Arabis lucida variegata*.—Seems to thrive remarkably well with Mr. Thomson. Its clear green leaves are margined with a broad band of yellow, occupying fully two-thirds of the surface. The plant, as is well known, is very dwarf, perhaps more so than *Arabis caucasica variegata*, which seems to elongate more into stalk, and its foliage is very different, and tipped with a creamy white instead of the yellow of *A. lucida*. It is somewhat remarkable that the latter will not thrive with me, although the other has done so for a dozen years or more. Mr. Thomson thinks *Arabis lucida variegata* as graceful as the golden *Geraniums*, which it resembles in colour.

*Tritoma uvaria*.—Masses of this as healthy and vigorous as Sedges by the side of a swamp, and sending up flower-spikes 5 feet and upwards in height, with plenty in succession, were to be met with in great abundance. Mr. Thomson also has the improved variety, for it can hardly be called a distinct species, but considers that the old one is the more abundant bloomer; as a backing to some of the borders this plant looked very fine.

*Geranium Queen of Queens*.—A silver-edged variety, with the marking very clear and good; its habit was more spreading than *Bijou*.

*Verbena Crimson King*.—A fit companion to *Purple King*, resembling that popular variety in all its features, excepting in the colour, which, as the name implies, is a bright crimson,

somewhat of the same tint as *Stella Geranium*; and perhaps nothing more need be said in its favour, than that on comparing masses of each the palm of merit was accorded to the *Verbena* by several very good judges, who happened to see them. The latter may, perhaps, be a trifle more dwarf than *Purple King*, but, like it, throws its flowers well upright, and there seemed to be a good succession of these coming on.

*Verbena venosa*.—This old species was in fine condition at Archerfield, better than I have ever seen it elsewhere, and its health was clearly proved by its foliage, which in too many places is very shabby; but here it was healthy, and there was promise of a longer succession of bloom than we often meet with in this plant.

*Oralis*.—A low-growing trailing or creeping plant, quite hardy, with foliage of a deep crimson. In the young state it is not inferior to any of the plants of its class. I am not acquainted with its specific name, but it is not so much used as it ought to be; it seeds freely, and grows on the gravel walks like any weed.

*Fuchsia, The Baby*.—A very dwarf variety, which for some purposes might be invaluable, but unfortunately the flowers of *Fuchsias* are all of a pendant character, and unless the plant can be viewed horizontally, or from beneath, the flower is not much seen, otherwise this neat little plant might be of great service. As it is, the compact habit and dwarf uniform character of the plant render it deserving of a place.

I cannot conclude this article without acknowledging the courtesy with which every information connected with Archerfield and its gardening was furnished by Mr. Thomson; and the readers of this Journal who have benefited by the very able practical articles from his pen, may rest assured that such information was at all times sound. As a proof of his skill, it is only necessary to refer to the prizes taken for fruit by Mr. Thomson at the Edinburgh International Show, and the condition of the flower garden was such as surprised some of the most successful cultivators from England. With means far from ample, he manages to prepare from 50,000 to 55,000 plants each year for the flower garden display, one-half, or nearly so, being wanted for the kitchen garden borders, and the other for the flower-beds just described. Long may he live to impart such useful information, and may his success each year equal that of 1865.—J. Robson.

P.S.—At page 400, the width of houses No. 4, 5, 7, and 8, is 14 feet instead of 11, and No. 11 had been widened to 12 feet. A more important error has crept into flower-border B, at page 426, where a belt, 3 feet wide, of *Scarlet Geranium*, *Little David*, should have been inserted between the first and second rows, making the border thus:—*Lobelia Paxtoniana*, one row as an edging; *Geranium*, scarlet, mass of 3 feet wide; *Geranium*, silver-edged, one row, then the broad mass of *Verbena venosa* of 5 feet, with circular patches of yellow *Calceolaria* and a *Scarlet Geranium* 2½ feet in diameter at every 12 feet in the centre of it, then another row of silver-edged *Geraniums*, and finally the whole backed up with a dwarf crimson *Dahlia*, called *Prince Arthur*, alternating with *Tritoma naria*.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

As long as the present wet weather continues we would strongly advise that all digging and trenching should be deferred until a more favourable opportunity. *Brussels Sprouts*, when the head is cut the dead leaves should be removed, but none of the green ones, as they protect the young side sprouts. The same may be said of *Scotch Kale*, and other winter greens. *Cabbage*, when a favourable opportunity occurs take advantage of it to earth up the autumn plantations, it not only invigorates them, but prevents their being loosened by the wind. *Cauliflowers*, never neglect giving air daily to those under hand-glasses and in frames, except during severe frost; if the plants are now drawn by an insufficiency of air, they will be very liable to button off. *Cucumbers*, we purposely say but little on the winter treatment of plants growing in frames, as there are but few persons who go to the trouble and expense of this mode of cultivation who have the convenience of a stove or *Cucumber-pit*, as plants may there be cultivated with much greater certainty. *Endive*, any that may have been placed in frames should have air freely admitted to them, to prevent their rotting. *Muskrumps*, the beds out of doors to have a thick covering of straw, over which should be placed mats to protect them from wet and frost; the straw when wet to be re-

placed with dry. *Parsley*, as most families require a large supply, frames should be placed over a portion to protect it from frost; some roots should also be potted and placed in one of the houses where they will be protected from frost, and, when wanted, can be placed in a house where forcing is going on. *Potatoes*, when the weather is favourable, ground intended for *Potato* culture should be rough-dug and exposed to the action of the weather as much as possible, and manure, if employed at all, should be most sparingly applied. *Radishes*, as soon as they come up in the frames give air at every favourable opportunity, to prevent their drawing.

### FRUIT GARDEN.

Do not let Pears become over-ripe before being used; also look over the whole stock as often as time can be spared, removing any fruit that exhibit symptoms of decay, and put them aside for immediate use. Apples are keeping very badly this year. Any of the more choice varieties of Pears that do not ripen properly in the fruit-room should be removed to a warm place for a few days, which will be found to greatly improve them. Keep all fruit as cool and dry as possible; if frost is excluded from the house it can scarcely be too cool when the object is to preserve fruit plump and sound as long as possible. Where orchard trees have been for some years left unpruned, the hand-saw will be required to thin out the larger branches; keep the middle of the trees open to admit air, and to promote the formation of fruit-buds on the interior branches. It is, however, a bad practice to leave any description of fruit tree to itself, as it would in all cases pay the cultivator to prune once a-year at least. If hitherto delayed *Strawberry-beds* should be dressed with short rich manure, we are not partial to the practice of digging between the rows; the manure may remain on the surface until the spring, when it can be slightly pricked in with a fork. Remove all unnecessary runners if they have been negligently allowed to remain. Finish pruning *Currants*, some of the larger kinds will repay the attention of superior culture; trained to a wall, and spurred as Vines, they approach some of the varieties of these in the size and weight of their bunches.

### FLOWER GARDEN.

Let lawns be well rolled when sufficiently dry for the purpose, every part of the turf should be frequently swept during the winter. Nothing adds so much to the enjoyment of pleasure-ground scenery as well-kept turf, and when connected with evergreen shrubs an agreeable relief to the dreariness of the season is afforded, which renders the loss of more attractive plants less to be regretted. At the same time see that the walks are kept dry and firm, in order that they may be traversed with comfort at all times. While the weather continues mild the planting of deciduous trees may be proceeded with, provided the state of the ground will permit of the operation being profitably conducted. Deciduous trees and shrubs may be pruned whenever there is time, except during severe frost. Valuable plants, as variegated *Hollies*, *Rhododendrons*, &c., if not growing so freely as it is desirable that they should do, would be benefited by a liberal allowance of rotten manure or well-decayed leaf soil applied as a top-dressing, covering it with a little fine soil, and working it into the ground around the ball towards the extremities of the roots. *Rhododendrons* and what are generally termed American plants bear removal so well that these when not growing satisfactorily should be taken up, the ground well prepared by a liberal addition of peat or leaf soil, and replanted.

### CONSERVATORY AND GREENHOUSE.

Attend carefully to specimen hard-wooded plants which it may be necessary to winter in the conservatory; many of these are impatient of fire-heat and a confined atmosphere. Use no more artificial warmth, therefore, than is absolutely necessary, and endeavour to counteract its drying effects either by means of evaporating-pans or by sprinkling the borders, &c., in order to prevent anything like a dry parched state of the atmosphere. It is in many cases difficult to maintain a sufficiently moist atmosphere without causing drip, as the moisture in the house becomes condensed upon the glass, and unless provision is made by means of inside-gutters and pipes to catch the condensed moisture and carry it off, it is nearly impossible in frosty weather to preserve the beauty of flowers for any length of time, and in cases where there is no provision made against this kind of moisture falling upon the plants, the temperature should be kept as low as may be consistent with safety, avoiding moisture in the atmosphere as far as possible whenever the glass is affected by frost.



## STOVE.

This will require a very liberal ventilation now, increasing fire-heat if necessary; in order to accomplish it still apply moisture to the air, although in a diminished degree, but withhold moisture entirely from the roots of deciduous Orchids, or those sinking into a state of repose. Any late specimens, or importations of Orchids making late growths, should have the highest situation in the house, and still receive a little moisture at the roots occasionally; light, however, is the great desideratum in order to produce those secretions on which alone depends their power of passing through a long winter successfully. If there is any prospect of a scarcity of bloom next May, a portion of the *Achimenes* and *Gloxinias* should be potted at once and placed in a warm part of the stove, choosing such as have been the longest at rest; and a few *Clerodendrons*, *Allamandas*, a plant of *Echites splendens*, and one of *Dipladenia crassinoda*, may also be started; but unless plants of these with well-ripened wood are at command, and that have been some time at rest, there will be nothing gained by attempting to start them into growth at present, for in most cases it is difficult at this season to maintain a sufficiently warm temperature to secure anything like free growth from these unless they have been well prepared for an early start. Let *Ixoras* and all other hard-wooded plants that have made sufficient growth be kept rather dry at the root in order to check growth and induce a tendency to form bloom-buds, but do not let the soil in the pots become so dry as to affect the foliage.

## PITS AND FRAMES.

With the assistance of a garden-frame, and stable manure or tan to furnish a gentle heat, *Hyacinths* may be had at Christmas, and with a good stock of bulbs the display may be kept up till April or May. For early flowering the bulbs should be planted in September, as advised at that time; those to flower in spring to be planted during the months of October, November, and December. It may be well to state that three bulbs grown together in a six-inch pot (thirty-two's) produce a much finer effect than single bulbs. The soil used for potting should be as rich as possible, such as one-half turfy loam and well decomposed cow or horse manure, with a small portion of clean sand intermixed. If, however, this cannot be obtained, then the lightest and richest at command must be employed instead. Fill the pots lightly with the prepared compost, and place the bulb upon the surface, slightly pressing it into the soil. After giving the newly-planted bulbs a liberal watering, set the pots out of doors on a place where perfect drainage is secured, and cover them with about a foot of old tan, ashes, sawdust, or any other light material. After remaining there for a month or five weeks the bulbs will be sufficiently rooted to render it safe to remove them to a gentle bottom heat of about 55°, introducing the pots in numbers proportionate to the demand at intervals of about a fortnight. We would caution the amateur when forcing the *Hyacinth* to be careful not to allow the roots to penetrate into the fermenting material. A sitting-room window forms a suitable situation for *Hyacinths* while in bloom, and their beauty will be longer in fading there than in most situations. In no instance should they be removed from a close atmosphere, or suddenly exposed in a sitting-room window, until they have been previously hardened in a suitable temperature to withstand cold drying currents.—W. KEANE.

## DOINGS OF THE LAST WEEK.

Wet and stormy up to Thursday. On Wednesday we were visited with a hurricane of wind, which snapped off the heads of some Pine trees, and tore off a piece of zinc roofing from a verandah, rendering it necessary to place heavy planks along it, and to wedge every moveable sash about the place. We escaped as respects glass with one or two broken squares; but without the wedging there would have been endless work for the glazier. We recollect running out very early one morning, years ago, during a similar hurricane, which levelled many of the finest trees, and being startled at seeing on the walk something white, which proved to be a sash, which had been carried by the wind some dozen of yards from the house to which it belonged, and laid down so carefully that not a square was broken. In a few minutes more the house would have been unroofed. It would have been of little use then to bewail a catastrophe. Twice besides have sashes been more or less moved from that house, but in no other instance without a fair amount of breakage. Whenever winds are expected, there is nothing like fastening and wedging. A person may then sleep

comfortably. The winds will otherwise have done us a service and an injury. Less sweeping and raking of leaves will be required, but then we lose the leaves that have been whisked off miles away, and that to us, with great shortness of manure, is a loss indeed.

## KITCHEN GARDEN.

Here outside nothing whatever was done. As soon as the weather is quiet and dry we shall move the ground on the surface among all young crops, as it is now battered firm and hard by the driving rains. The loose surface will do much to keep out the intensity of the frost, if it come. Carrots, Beet, &c., in sheds were also examined, and a piece of a Mushroom-bed was spawned and left. The bed was shallow, and the heat on the decline, though rather too hot 3 or 4 inches from the surface to suit the welfare of the spawn. The spawn, therefore, was placed pretty near the surface, so as to be cooler, and as the heat declines we shall place another inch of droppings on the surface, beat firm, and then, if in a day or two the heat be all right, we shall earth and beat it down. From the damp weather, and the damp from the manure, the house altogether became too damp, and we put a little fire heat on, and gave air to secure a drier atmosphere. They are well off who have now enough of shed room to spread out the materials for Mushroom-beds, before making them up into beds, but when this cannot be done, and yet succession-beds must be made, some of the modes which we have previously mentioned must be resorted to to counteract the extra dampness. Examined the Sea-kale and Rhubarb to see that the heat was not too strong for them.

## FRUIT GARDEN.

Examined fruit in fruit-room, removing the spotted and decaying, and gave a little extra air on a dry day to sweeten and dry the place. A little air constantly in mild weather is best, but so given that mice and rats cannot enter. These vermin are threatening to be very annoying. We believe that where game and rabbits, and especially the latter, are strictly preserved, rats will multiply. Their perseverance is most astonishing. If in some places a thorough rat battue does not take place they will become as impudent as in the moorlands of Braemar, where, it is reported, men have had to run for their lives, and where nothing eatable escapes them. We mean to tar the first one we catch alive, and send him off to strike terror into the hearts of his companions and cause them to shift their quarters. We only once saw a migration of rats. It was on a moonlight night, and in the most direct track from one large farmyard to another. There were scores if not hundreds of them. In the case of bulbs potted for forcing we were obliged to cover every pot with an inverted pot, and a piece of brick over the hole. Those not covered in this way, though surrounded and covered with chopped furze, were turned out and partly eaten by mice, and very likely rats, the very first night. Trapping and destroying seem to make little difference as to the supply. The gardener's valuable assistant, the cat, has nearly disappeared from gardens. So long as cats are playful kittens they are pretty safe; but by the time they are able to mouse and rat they get trapped and shot, even close to their own domicile.

The weather being so unsuitable for out-door work, the chief employment has been in the *Peach-house* and *vineries*. Pruning the trees; washing with soap and water trees, glass, and woodwork, syringing well into every hole and corner with water about 150°; scraping off an inch or more of the surface soil; forking up, and replacing with fresh loam, a little soot, and dry Mushroom-dung from an old bed; painting the trees with a mixture of sulphur, clay, and soot; and tying them after washing down the walls with hot water, and then white-washing these with fresh lime toned down with some black and sulphur. The sulphur and black were wrought up into a thickish paste before being added to the whitewash. The addition of a little blue or lampblack takes off the bright white appearance which the lime would give—too bright to suit some plants if the sun shines brightly and its rays are reflected from the walls. The mixing of about a pound of sulphur in about a gallon and a half of limewash will cause slight sulphur exhalations to be given off for some time whenever there is sunshine. We will secure this longer in the season by painting a couple of feet or so at the top of the wall in a couple of months with sulphur paint, made by beating up the sulphur into a paste, and adding enough of strong soft-soap water to make the paint. This will give out strong fumes for some time, and will hurt nothing if air be given before very bright sunshine. No insects like such treatment, and in the case of all insects it is better to keep them away than to kill or drive them away

after they have come. In addition to all this, when there comes a quiet, foggy, drizzly afternoon, we shall smoke the houses when dry with bruised laurel leaves. If the houses are damp, and especially the woodwork, the smoke will change the colour of the paint; but even that, if let alone long enough, will return to its original colour. These houses as soon as thus cleaned, will be filled with bedding plants, &c. until, on commencing to force, the plants must be removed when the heat becomes too strong for them. As we have several times stated, the labour of moving plants about is great; but if bedding plants can now be placed in such houses for a month or two they will enjoy the greater amount of air than can be given them in pits and frames, and the greater circulation produced in that air by a little fire heat in damp foggy weather.

Moved a lot of *Strawberries* in pots where they can be protected from wet and severe frosts; will soon bring all that are in pots under such protection into the orchard-house, &c. In these cold houses, have cleared off all the leaves, and scraped off a little of the surface soil, and when thoroughly cleaned and top-dressed, there will be room for many little things out of the wet, and dryness alone will be a great protection from frost. A number of Black Prince *Strawberries* are showing bloom strongly in a Vine-pit, where there is just a little heat, and others are swelling pretty freely on shelves in a pit hot enough for Kidney Beans coming into bloom. We have noticed many failures with this nice little Strawberry from over-heating, and over-watering. There should not be dryness, but there should be no soaking, nothing like standing water until the fruit is set; in fact, no standing water in saucers or otherwise at any time, and as for heat, from 50° to 55° is quite high enough until the fruit is swelling, and 60° is quite high enough when ripening. Some 10° more may be added in bright sunshine, with air. Under such treatment the fruit will be dark and well flavoured. In a higher temperature it is apt to come red, soft, and tasteless. As soon as we have some leaves and litter hot enough, we will make up some beds for frames, and in a mild heat, and on the surface of the bed, we shall stand a lot of Keens' Seedling, and make up other beds for Radishes, Asparagus, &c. We must depend on the cleaned-out fruiting-houses for clearing some of these frames of their present occupants, for just now we have not a frame or pit of any kind that is not more than filled.

#### ORNAMENTAL DEPARTMENT.

Chiefly as in previous weeks, and regulating and fresh setting stove; cutting down Ferns, chiefly of the Maiden-hair kinds, the fronds of which were showing signs of decay, and keeping the fresher ones until those cut down shall be making their fresh fronds. Placed *Gesnera zebrina*, and plants of that description, where they would be warmer and drier. Will report and divide the Ferns spoken of, when they begin to move afresh. Small pots of the Maiden-hair, &c., are useful for table decoration. Small plants of *Solanum capsicastrum*, and *Adisia crenolata*, are also very useful, along with variegated plants of all kinds. Small plants of different kinds of Mosses in small pots are also useful for making up vases of flowers—either in the pots, these being hidden, or taken out, and repotted when done with. Clear manure water, or rich top-dressing, is also now useful for *Chrysanthemums* and *Camelias*, and *Cinerarias*, *Primulas*, and other soft-wooded plants, as soon as the roots reach the sides of the pots, and the flower-stems appear. Young plants in pits and frames require plenty of air, but given so as to keep the wet out. The weather up to Thursday being so wet, the chief work among plants has been looking over *Geraniums*, *Fuchsias*, &c., and examining all bedding plants taken into the plant-houses, removing all signs of decayed leaves, stirring the surface soil, &c. A great deal of this can be done in wet days by choosing a favourable time, and taking a good lot in barrows or sieves into a comfortable shed, and removing them also at the most suitable time, so that the men may not get soaked. With a little forecast, there should always be plenty of work in-doors in wet weather in moderate-sized gardens. We have worked with others until the cold rains would gurgle out at our shoes at every step, and then go home at night to lodgings, where clothes could not be dried. But what or where was the benefit? We are sure that the employer would have gained more if we had been under shelter and idle; but, as said above, idleness is never necessary; there are always plants to clean, walls of houses to whitewash, glass to mend, tallies to make, sticks to point, pots to wash, covers for protection to make and mend, &c. Even with this little care and forethought, men will be ill, will have lumbago, rheumatics, and other troubles; but it is a satis-

faction to feel that such troubles are not brought on or intensified by our carelessness, our wilful neglect, if not wilful cruelty. One thing is certain, that good garden-men generally tire of their shed work before it is nearly exhausted, and are quite as anxious to get out as the head-gardener can be that they should go, and when they do go out in their dry comfortable clothing, they work with an energy and a will which you might in vain expect to find among men who turn out after sitting in a cold fireless place at their meals, and with their wet-drenched garments flapping about them. In our course through life we have always found that a little consideration for the circumstances, and the comforts of others, always brings with it its own reward. At this trying time of the year we trust we may be excused for thus, in passing, alluding to this subject.—R. F.

#### COVENT GARDEN MARKET.—NOVEMBER 25.

THE late boisterous weather has rather thinned our supplies, and prices for rough goods have slightly advanced; but with a few days of favourable weather no doubt they will recede again, as there are abundant crops to come in. Large cargoes of St. Michael's Oranges are to hand, and after very rapid passages are in fine condition. Pines are more than sufficient for the demand.

##### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	0 to 2	0	Melons.....	each 3 0 to 5 0
Apricots.....	doz. 0 0	0 0	0	Mulberries....	punnet 0 0 0 0
Cherries.....	lb. 0 0	0 0	0	Nectarines.....	doz. 0 0 0 0
Chestnuts.....	bush. 8 0	16 0	0	Oranges.....	100 4 0 10 0
Currants, Red	1/2 sieve 0 0	0 0	0	Peaches.....	doz. 0 0 0 0
Black.....	do. 0 0	0 0	0	Pears (kitchen)..	doz. 2 0 4 0
Figs.....	doz. 0 0	0 0	0	dessert.....	doz. 1 6 4 0
Filberts.....	lb. 0 9	1 0	0	Pine Apples.....	lb. 4 0 6 0
Cobs.....	100 lbs. 0 0	14 0	0	Plums.....	1/2 sieve 0 0 0 0
Gooseberries..	1/2 sieve 0 0	0 0	0	Quinces.....	1/2 sieve 3 0 4 0
Grapes, Hambro..	lb. 4 0	6 0	0	Raspberries.....	lb. 0 0 0 0
Muscats.....	lb. 5 0	8 0	0	Strawberries.....	lb. 0 0 0 0
Lemons.....	100 6 0	10 0	0	Walnuts.....	bush 14 0 20 0

##### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	each 0 4	0 0	0	Leeks.....	bunch 0 3 to 0 0
Asparagus....	bundle 0 0	0 0	0	Lettuce.....	per score 1 0 2 0
Beans Broad..	bushel 0 0	0 0	0	Mushrooms....	potlio 1 6 2 6
Kidney.....	1/2 sieve 0 0	0 0	0	Mustd. & Cress, punnet	0 2 0 0
Beet, Red.....	doz. 2 0	3 0	0	Onions.....	per bushel 3 0 5 0
Broccoli.....	bundle 1 0	2 0	0	pickling.....	quart 0 0 0 6
Brus, Sprouts..	1/2 sieve 2 0	3 0	0	Parsley.....	1/2 sieve 1 0 1 6
Cabbage.....	doz. 0 9	1 6	0	Parsnips.....	doz. 1 0 2 0
Capsicums.....	100 1 0	2 0	0	Peas.....	quart 0 0 0 0
Carrots.....	bunch 0 4	0 8	0	Potatoes.....	bushel 2 6 4 0
Canflower.....	doz. 4 0	8 0	0	Kidney.....	do. 3 0 4 0
Celery.....	bundle 1 0	2 0	0	Radishes doz. bunches	0 6 1 0
Cucumbers.....	each 0 9	1 6	0	Rhubarb.....	bundle 0 0 1 0
pickling.....	doz. 0 0	0 0	0	Savoy.....	doz. 0 9 1 6
Endive.....	score 1 0	2 0	0	Sea-kale.....	basket 2 0 3 0
Fennel.....	bunch 0 3	0 0	0	Spinach.....	bushel 2 0 3 0
Garlic and Shallots, lb.	0 0	0 0	0	Tomatoes.....	1/2 sieve 0 0 0 0
Herbs.....	bunch 0 3	0 0	0	Turnips.....	bunch 0 4 6 6
Horseradish ..	bundle 2 6	4 0	0	Vegetable Marrows dz.	0 0 0 0

#### TRADE CATALOGUES RECEIVED.

André Leroy, Angers, France.—*Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, &c.*

W. Barron, Elvaston Nurseries, Borrowash, Derby.—*Select Catalogue of Ornamental Plants.*

Dreghorn & Aitken, 79, King Street, Kilmarnock.—*Catalogue of Herbaceous and Alpine Plants.*

B. L. Pierrepont, Horsemarket, Warrington.—*Descriptive Priced Catalogue of Dutch and French Flower Roots, Roses, Fruit Trees, &c.*

#### TO CORRESPONDENTS.

\*.\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

LATIN AND ENGLISH NAMES OF PLANTS (*A Constant Subscriber, Sussex*)—The names in Latin and English are in London's "Hortus Britannicus;" and the names, and culture in addition, are in Johnson's "Cottage Gardeners' Dictionary."

BOOKS (*A Subscriber*).—We think Johnson's "Science and Practice of Gardening," will exactly suit you. It details the functions of plants, as well as explains the reason of all cultural operations in simple language. You can have it free by post from our office for forty stamps. (*K. Alceford*).—The price of Hogg's "Vegetable Kingdom," free by post, is 10s. 6d., and of Johnson's "Science and Practice of Gardening," 3s. 4d.



**TRADESCANTIA ZEBRINA** (*J. Bowley*).—The specimen enclosed is so called commonly, but it is *Cyanotis vittata* of botanists. It might live in a border during summer. If you send four stamps to the office with your direction, and state the Number you want, it will be sent free by post.

**VINES OVER POTTED FRUIT TREES** (*S. W. G.*).—We would say, let well alone; but you may have the Vines—say six or seven, and place nothing directly below them. We would confine the sorts to Royal Muscadine, Buckland Sweetwater, Black Hamburgh, and Esperione.

**WHEN TO USE A MOWING-MACHINE** (*W. D. P.*).—Our experience is, that the machine cuts the grass as well again when the latter is dry as when it is wet. During very dry weather, however, the work is done better with the grass a little damp. The question is easily decided: mow a piece wet, and another piece dry, and ask a stranger for his opinion of the two pieces.

**ADDING LIME TO THE TAN IN HOTHOUSE-PIT** (*M. W.*).—If you fill your pit in your stove division with tan, a little fresh lime mixed with the tan now and then will destroy worms, but it will have little effect on other insects. Tan is about the best thing you can have, and everything thrives in it, but there is some labour involved in keeping it nice, and taking out cold and putting in new. We should think if you had heat enough in the place, you might dispense with filling the pit altogether, and place a platform over it. If you preferred bottom heat in the pit, it would be much cleaner and give you less trouble to take some pipes through it. Place clinkers and stones over the pipes to the depth of 4 inches, and then a layer of clean-washed gravel or rough cinder ashes to set or plunge your pots in. Pots of Vines would do well in such a bed. If you intend to plant your Vines out, and yet have stove plants, you could hardly keep up stove heat in winter without taking the Vines out, as described the other week.

**SUPPLY CISTERN FOR HOT-WATER HEATING** (*A. S.*).—Provided your supply cistern is higher than the highest part of the pipes, it matters little where it is situated. It may be close to the boiler, or it may be at the farthest and highest point of the flow-pipe, before that bends to form the return. If close to the kitchen boiler, as is generally the case, a small open air-pipe would be necessary at the highest point of your flow-pipe. If the position given of these pipes with respect to the boiler is correct, there may be a hitch in the circulation, as your return-pipe is shown considerably below the level of the bottom of the boiler, and then there is a sharp rise to the boiler. It will be safer to have no such rise, but have every pipe above that level.

**FIGS ON THE BACK WALL OF A VINERY** (*R. C.*).—They will succeed in proportion to the light they receive through the Vines. Without a fair share of sunlight they will not do much in the way of fruiting. They will succeed all the better from being confined to a narrow border of from 3 to 4 feet in width. We would make that border of nice, mellow, fibry loam, with a little sweet decayed leaf mould, or hotbed dung added, and but little of that, as strength can easily be given by manure waterings and surface-dressings. The Figs are sure to grow strong enough in plain loam at first.

**CENTAUREA CANDIDISSIMA IN WINTER** (*Idem*).—The Centaurea will only stand the winter, so far as we have seen, in dry warm places. It is easily affected by damp. It is advisable to take a lot up, as young plants from cuttings in spring are the best for edgings. See "Doings of the Last Week," lately.

**VENTILATING A GREENHOUSE** (*Tetist*).—In your greenhouse 23 feet long, the openings at each end, 2½ feet square, just beneath the apex, will be quite enough for top ventilation, if you can give enough in front. Last summer we found a house about the same size did well enough with about half the size of the openings you speak of, left open night and day in summer. With openings 2½ feet square, we would divide the shutters into two pieces, so as to give only a little air when the weather was cold, or, at least, have the power to regulate the quantity. We have proved that with these openings there is no necessity for openings at the apex in the roof for such houses. We would decidedly advise you to have a door opening into the dining-room. If kept clean, dry, and ventilated, there will be no unpleasant smell in the room. It would be well to have a door or a moveable window besides, for dressing, moving, and bringing in fresh plants. There would be no danger from expansion if you laid your glass edge to edge without laps, on Mr. Beard's plan. So placing the glass, however, is only part of Mr. Beard's plan. To carry it out wholly you would, we suspect, infringe his patent. Of this we are sure, that if you place the glass edge to edge, glaze rather tightly, and use putty in the usual way, many of your squares will be cracked by expansion.

**HEATING A GREENHOUSE WITH GAS** (*W. Turner*).—If you use Hartley's coloured ribbed glass, you will not want any shading for the roof, and it will suit plants admirably. As you propose to have four Vines, however, we would for them prefer the 21-oz. sheet glass, obtaining thirds or seconds, and fourths. We have heated a greenhouse, 20 feet by 12, with gas. There was a circle of pipe about 1 foot in diameter, perforated with small holes, and the gas coming through burned in small flames, regulated by a tap. An iron stove enclosed this circle, and from the top of it an iron pipe, or flue, rose to the top of the greenhouse, passed along its whole length, and terminated outside so as to convey all noxious fumes into the open air. There is no advantage in using hot water with such an apparatus. The quantity of gas consumed must depend upon the season. The tap must be turned on more fully in cold than in milder weather.

**RAINFALL**.—"Rain fell here on only twenty days in October, and not on twenty-eight days, as stated in last week's JOURNAL OF HORTICULTURE. If the mistake was mine I am very sorry for it."—CHARLES ROSS, Welford Park."

**ADVANTAGES OF BUDDING PEACHES ON THE PLUM** (*W. M.*).—The advantages of growing Peaches on the Plum stock are—1st, The Peach takes more freely upon the Plum than on its own stock. 2nd, It grows more freely. 3rd, The stocks are more readily procured. 4th, The Plum being harder than the Peach, it is calculated that the latter will do better on it than its own roots. 5th, The trees are more prolific and bear at an earlier age, as do most fruits upon a stock of another genus or species.

**LEAF MOULD** (*A. B. C.*).—This is formed of leaves kept moist and in a heap, frequently turned over, until completely decayed, and reduced to a dark brown, moist powder. It usually takes two years to complete this process.

**RHEUMATISM**.—The following is from a medical correspondent:—"I strongly advise 'A YOUNG GARDENER,' to use the following remedy, taking care to keep himself warm the following day—a warm bath with sufficient water to cover the body with the exception of the head. Let the warm water be maintained at a temperature of 96° or rather higher. Into this stir half a pint of good mustard, place a blanket over the bath, remain in half an hour, then roll up the body in the same blanket, get into bed, and cover up so as to perspire profusely. The mustard causes a continued and pleasant excitement of the skin. I constantly use it with patients to induce sleep and relieve the brain of too much blood. A partial cure of rheumatism can be effected by the following means:—Take a large spoonful of good mustard and ten of linseed meal, mix well with warm water, spread this on a sheet of thick paper, cover with muslin, and apply to the part affected. Keep this on from eight to ten hours. This is also a good remedy in neuralgic pains, it cures by acting gradually and continuously as Nature points out."—CONSTANT READER."

**KEEPING WALNUTS AND COB NUTS** (*G. T.*).—The Cob Nuts should be kept in their husks. Both Walnuts and Nuts are best kept in stone jars, covered at the top with sand, and the jars placed in a cold damp cellar. You keep your Nuts too dry.

**MANUFACTURERS OF RUSTIC POTTERY**.—J. Anderson wishes for the directions of some manufacturers of jardinières, Fern vases, &c., in pottery.

**NEGLECTED FIG TREES—STRIKING CUTTINGS** (*A Subscriber, near Portsmouth*).—You had better let your neglected Fig trees alone now, until the end of March. Then the young fruit will be peeping, and you can thin out liberally the thickest of wood that show least fruit. The Fig, like all other fruit trees, should have the wood no thicker than the leaves can be exposed to the sun and air. Some fasten the young shoots close to the wall, but it often happens that it is better practice if the bearing shoots dangle a little from it. We suspect that you will have to root-prune as well as branch-prune. Cuttings of stove and greenhouse plants are best inserted after February, and cuttings of hardy plants after May and June. Cuttings of Camellias do best when taken off in autumn, using well-ripened wood, and making every bud with its wood a cutting, kept close in cold pits, and then in spring placed in bottom heat. The best Rhododendrons may be struck in the same way, choosing the points of stubby well-ripened shoots, and if with a small piece of the older wood all the better. Grafting is, however, preferable to cuttings. From *Azaleas* select, after February, nice little shoots with no flower-buds—say 2½ inches long, with about the sixteenth of an inch of the older wood—dress, insert in sand, cover with a bell-glass, shade, and, in about a month, plunge the pot in a sweet bottom heat, and harden off gradually as the cuttings strike. You may divide *Chrysanthemums* now with great propriety, the smallest bit with a root will make a good plant next year, or you may delay parting until March. If you want more definite particulars, you should ask about one thing at a time, as to go into the minutiae of propagation would require pretty well a Number. As you have not had much experience we would refer you for particulars to "Window Gardening for the Many," which you can have post free for ten stamps.

**COMMENCING GRAPE-FORCING** (*O. P.*).—With respect to your vinery which has never been forced, and which you wish to force as soon as you can, and the leaves of the Vines are now turning yellow and falling, we would proceed as follows:—Clear off all the leaves, then clean the border outside in which the Vines are planted, fork it over, and place on it from 15 to 18 inches of leaves and litter, less for producing heat than for keeping cold from the roots. Then go inside, prune the Vines, wash them, wash and clean the glass and woodwork. Lime-whitewash all walls (see "Doings of the Last Week"). Shut up your house about the 18th of next month, and commence about Christmas or the new year with a heat of 45°; raise that gradually in the second week to 50°; in the third week to 55°, and in the fourth week to 60°, and never exceed 60° until the buds have broken and pushed at least an inch, when you may gradually rise to 65°, and then to 70° when the Vines are in bloom, and when set return to 65° gradually. This temperature is by artificial heat. Allow from 10° to 15° more in bright sun with air on.

**SITUATION OF ASH-PIT** (*Inquirer*).—The least depth for the ash-pit to be below the lowest pipe would be from 9 to 15 inches. In cases where water prevents going down the boiler need be little lower than the pipes, but it acts better if lower. But for single houses there is a fair circulation when the top pipe is a few inches below the top of the boiler, and the lower return-pipe enters close to the bottom of the boiler. The *Lapageria rosea* requires a good deal of surface room, and plenty of moisture, with good drainage, and to be pruned in pretty closely if to be kept in a pot or little room. Though wanting a moderate depth for the ash-pit, we have had them not more than 6 inches below the boiler. They only require clearing out oftener.

**PROPAGATING CYANOPHYLLUM MAGNIFICUM—WINTERING CISSUS DISCOLOR** (*J. J. H.*).—This *Cyanophyllum* is best propagated in spring when the shoots are a few inches in length, those with three joints being eligible for cuttings. Cut the shoots transversely below the lowest pair of leaves, remove these, leaving another pair of leaves at the next joint, and a growing point; drain a small pot well, and fill it to within half an inch of the base of the cuttings with sandy peat, mixed with a little loam, made very sandy by the admixture of silver sand. Fill up to the rim with silver sand, insert the cutting in the centre of the pot, and down to the second joint; give a gentle watering, and plunge the pot in a bottom heat of from 85° to 90°. The structure should have a moist atmosphere, and slight shade should be afforded from sun and strong light. A bell-glass placed over the cuttings will facilitate their rooting. Guard against too much moisture, otherwise the leaves and the stem of the cutting will damp off. When rooted, gradually withdraw from the hotbed, and remove the bell-glass. *Cissus discolor* should now have very little water, just enough to keep the foliage from flagging, allowing it to fall off mature of its own accord. Most of the leaves will now be off; no water, therefore, should henceforth be given beyond what is necessary to prevent the wood shrivelling. In a temperature of 50° it keeps safely, and even with 45° if the soil is dry.

**CHRYSANTHEMUMS FOR GREENHOUSE** (*A. C. C. H.*).—Large-flowering.—Prince Albert, Lady Harding, Beverley, Golden Christine, Christine, Alma, or Duc de Conigliano. *Pompons*.—Bob, Golden Aurore, White Treveland, Lilac Cedo Nulli, Duraflet, Florence. We do not recollect such an advertisement.

**CINERARIA SEEDLING** (*J. P. Cathcart*).—It is pretty, but in no quality equal to a multitude of others.



**GREEN ROSE (T. G.).**—There is a green rose, and it was introduced about eight years since, by Messrs. Guillot & Clement, of Lyons, under the name of *Rosa viridiflora*. Five years since we know it was cultivated in this country, and looked like a China Rose, all the petals bright green, but those in the centre paler than the outer. It was then called *Rosa Bengale* vert.

**ROSES FOR BEDS (Idem).**—It would be better if you have dwarf Roses, only to have them on their own roots, as there will then be no mistake made about creepers as is often the case. We have such kinds as Général Jacquemont, Jules Margottin, Mrs. Kivers, Géant des Batailles, Caroline de Sansal, Baronne Provost, Chenedole, Souvenir de la Reine de l'Angleterre, and others in the most robust health on their own roots. We have not pegged them down, but simply cut away early in the season any rampant growth, so as to give the plants a tidy bushy appearance, only the very coarse shoots were cut out in summer as they rob the rest. In winter the Roses are pruned in close, and when wanted we can add manure. Roses delight in a deep soil, so that any extra pains taken before they are planted will be sure to benefit them. They can be pegged down, and if this be done in summer while they are growing they will strike root, but, in our own case, we prefer to let the Hybrid Perpetuals

grow as bushes, but some beds of strong-growing Bourbons and others are pegged down and look all the better for it.

**NAMES OF FRUITS.**—(*Pomona*).—2, Fearn's Pippin; 3, Cox's Orange Pippin. (*B. R.*).—1, Easter Beurré; 2, Glou Morceau; 3, Beurré d'Arenberg. (*W. L. Pashley*).—1, St. Germain; 2, Jean de Witte; 3, Belle de Noél. (*A. B. Y. Kent*).—Pears.—1, Beurré de Rance; 2, Glou Morceau; 4, Passe Colmar; 5, Bergamot Esperen. Apples.—1, King of the Pippins; 2, Striped Lincolnshire; 4, Scarlet Nonpareil. (*S. E.*).—1, Beurré Diel; 2, Ne Plus Meoria; 3, Moens; 6, Passe Colmar; 17, Lewis's Incomparable. (*O. S.*).—2, Nelson Codlin; 4, Russet Nonpareil; 6, Golden Harvey; 8, Nonpareil; 9, London Pippin; 11, Drap d'Or; 15, Ord's.

**NAMES OF PLANTS (D. C. Edgubston).**—1, Davallia canariensis; 2, Athyrium Filix-foemina; 3, too imperfect; 4, Filix serpyllifolia. The leaf is that of *Begonia argyrostigma*. (*J. B.*).—1, Adiantum capillus-Veneris; 2, Blechnum occidentale; 3, Adiantum curvatum; 8, Davallia canariensis; 9, Adiantum pubescens. We cannot spare the time to puzzle over such scraps as the rest are. Correspondents requiring our help should not give unnecessary trouble. The numbers should be fixed to each specimen so as to be at once legible. (*A Young Gardener*).—*Eriostemon myoporoides*, *Callistemon coccineus*. (*Annie*).—1 and 2, Pelargonium petals, fallen; 3, Linum trigynum; 4, Philomis frutescens.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending November 25th.

DATE.	THERMOMETER.						Wind.	Rain in inches.	GENERAL REMARKS.
	BAROMETER.		Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 10	29.894	29.659	55	49	48	47	S.W.	.09	Rain; densely overcast; showery; heavy rain at night.
Mon. . . 20	29.506	29.360	57	41	51	48	S.W.	.10	Rain; slightly overcast at night.
Tues. . 21	29.298	29.255	58	43	51	48	S.W.	.10	Densely clouded; showery; clear.
Wed. . 22	29.172	28.885	59	43	51½	49	S.W.	.13	Boisterous with rain; strong gale; clear; much lightning at night.
Thurs. 23	29.454	29.347	64	46	51½	49	S.W.	.00	Very clear; overcast; fine.
Fri. . . 24	29.535	29.179	51	35	51	49	S.W.	.01	Very boisterous and showery; clear at night.
Sat. . . 25	29.311	29.186	47	42	50	40½	S.	.07	Fine; densely overcast; rain; fine; starlight.
Mean..	29.461	29.260	53.57	43.14	50.57	47.21	....	0.50	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### JUDGES OF GAME FOWLS AT THE BIRMINGHAM SHOW.

As to who "JUSTITIA" or "EXHIBITOR" may be, I will not even hazard a conjecture, more particularly when the latter party in his reply denies directly the correctness of "JUSTITIA's" assumptions as to personal identification. These two gentlemen, therefore, had, perhaps, better be left to enjoy their different opinions, so long only as facts are not violated. Should, however, "EXHIBITOR" ever indulge in mis-statements as to facts of similar stamp to those of "JUSTITIA," the duty would at once be involved of pointing out with equal certitude such error, regardless of the soreness of any one.

It must, however, be evident to every candid reader, that "JUSTITIA" invariably evades and shrinks from facts without consideration, though he himself throws out postulations most unreservedly—a habit which "EXHIBITOR" describes as pithily as he does truthfully, when he writes, "That it not unfrequently happens, that persons most ready at insinuating charges against others, are guilty of the alleged practices themselves." "JUSTITIA's" former statement, that dissatisfaction with the Game judging at Birmingham merely existed with "one or two disappointed exhibitors;" and, again, in his last letter, that "Had the Game Judges been at fault, would a solitary complaint have been made?" is quite opposed to facts, as day by day becomes more and more conclusively evident.

In my former letter I willingly gave credit to "JUSTITIA," that he had fallen into this "mistake, no doubt, unconsciously;" but admit that his present persistence in error, and undaunted determination to support at all hazards a statement so distinctly controverted by facts, considerably shakes so favourable a construction; for an obstinate continuity in error, by any individual, surely betrays but little inclination for its correction.

No doubt, a very few weeks hence, events will enforce a far more palpable refutation of the "solitary complaint of one or two disappointed exhibitors," referred to by "JUSTITIA" in his last letter, than he has any conception of, as, presupposing the Birmingham arrangements to remain the same as hitherto, the meeting held two years back on the subject will be recapitulated, with a vast accession of numbers; for the public opinion of poultry exhibitors is now so determinately fixed against the dictatorial appointment of the Judges for so important a Show as the one at Birmingham, at the caprice of any single individual, that it will be no longer tolerated. It is not persons, but the system, that is the sole cause of complaint,

and, beyond question, this plan of appointing arbitrators has long since become obsolete in all other of the general appointments of society, wherever conflicting interests are in operation. The decree by a single irresponsible individual as to the Birmingham Judges, to whom the all-important duties of awarding valuable premiums is ultimately entrusted, is an error that crept in, at the earliest institution of the Birmingham Shows, and remains a practice of all others the best calculated to shield intrigue.

Speaking of the Manchester Show, "JUSTITIA" expresses his opinion, that "Mr. Jennison is reputed to be a shrewd man of business, and that he wishes his enterprise every success;" and adds, "it is to be hoped he will not accept any nominee, but select judges of known ability and integrity, and at all events, not recur to the memorable Birmingham régime of 1862." "Old Cochon" re-echoes this wish most heartily. "JUSTITIA's" mind, however, may rest perfectly assured on these points, that Mr. Jennison is a "shrewd man of business," and, consequently, desires to satisfy, not oppose, the wishes of his best supporters. Mr. Jennison's mode of ascertaining the desires of poultry amateurs as to the selection of the Manchester Judges, was at once "shrewd," rational, and of very easy application, for Mr. Jennison's printed instructions to his exhibitors, to vote on their "entry returns" for whatever gentleman each exhibitor thought most suitable to act honourably, uprightly, and satisfactorily as umpires, formed the firm basis for his future operations, and certain it is, that the obloquy now so universally prevalent at Birmingham never yet attached itself to the Belle Vue Shows.

On the other hand, however, I cannot for a single moment agree with "EXHIBITOR," in even a desire that the Manchester Exhibition should ever supersede the mother show at Birmingham. Let Birmingham alone, she is now quite able and as certainly willing, upheld in so doing by the full force of popular determination, to work out her own regeneration, without discourtesy to any one. Whether the results should prove favourable or unfavourable, so far as Bingley Hall only is concerned, it certainly will obviate any repetition of these unseemly annual disquisitions, though it will never jeopardise the ascendancy of the good old Birmingham Poultry Exhibition. It will, on the contrary, insure its permanence, abrogate altogether the present unnecessary mystery in the appointment of umpires, by enlisting universal public confidence, in lieu of the present distrust, and result in the still further advancement of the Show at Birmingham.—OLD COCHON.

WEST CUMBERLAND AND NORTH OF ENGLAND POULTRY SOCIETY.—We are informed that the Committee of the above



Society intend this year having two Judges for Poultry, one for Pigeons, and one for Canaries, and these gentlemen are to be chosen, regardless of expense, from amongst the best judges the kingdom can produce. We are further informed that the building at Whitehaven, in which the exhibition will take place, is a very large, well-lighted, and well-ventilated structure, obligingly lent for the occasion by the Earl of Lonsdale, so that exhibitors may rely upon having their specimens well judged, properly attended to, and carefully housed in a good building.

### CHIPPENHAM POULTRY SHOW SEEN UNDER DIFFICULTIES.

It had been my intention to inspect the poultry at Chippenham on the morning of the second day, because the Show not being opened to the public on the first day until three o'clock, there is not much chance in dark November of seeing the birds plainly so late in the afternoon. Indeed, the early morning is the best time to visit a poultry show. The fowls are lively, they step round their pens with a proud air, sometimes approaching you in the hope of getting food; in short, on a fine morning they look to perfection. Judge, then, my extreme dismay to find at the very last moment that it was but a one-day's Show. I was aware, indeed, that no cattle would be exhibited on account of the "rinderpest," but we all expected the Poultry Show would, as usual, last two days. I hurried down to Chippenham unwilling that a Wiltshire Show should take place without "WILTSHIRE RECTOR" having the pleasure of seeing it.

I arrived at four o'clock, and raced frantically from pen to pen. Fortunately two friends, able judges of poultry, had been present all the time since the opening, so I was able to avail myself of their opinion formed, not at twilight like my own, but in broad daylight, for the Show this year was opened earlier than usual. There being no cattle show, no catalogues had been printed, so that if I make any mistakes, darkness, and the want of a printed guide and remembrancer, must be my excuses. I mention this, as there is an immaculate letter-writer who sees spots very plainly ('t is a shame to pelt the poor man with a pun involving a Latin derivation'). My first inquiry was about the *Game* classes, for they are generally very good at this Show. This year the Black Reds, especially, were excellent, much better than last year; the cocks were finer birds, and yet most of them not coarse, nor not "little bits of things," mere symmetry without power; this is well. Mr. Waller's pen (first prize) were very noble birds. Mr. Stevenson's single cock ("the prize") is an extremely fine bird. *Spanish*, Mr. Heath, of Calne, first as usual. *Cochins*, Miss Milward, first prize, with a very pretty pen of Buffs. This lady's birds are excellent in colour, abundant in fluff, short-legged, and well-shaped. If she could breed them larger she would be a very formidable antagonist, even at our foremost shows. I was glad to see a greater number of *Hamburghs*; the Golden-pencilled were, however, the best. *Polands*, first prize, Mr. Hinton. In regard to *Game Bantams* I must notice the first prize, they belonged to Mr. Dowding, of Chippenham, and, unless I greatly mistake, they will win further laurels; also a pen of Silver-laced Bantams (Sebrights) appeared, from what I could see of them, to be better than usual. I must not forget to notice that Lord Cowley sent in a pen of Frizzled fowls, which looked as if the ladies of Draycot Park had carefully done up their feathers in curl-papers the night before, and only taken them out just before the Show began. Honoured "Frizzled" going off, I saw, in an earl's carriage. An odd thing happened in regard to the two best pens of *Geese*—they weighed exactly alike, hence the prizes were divided. There was also an excellent pen of *Aylesbury Ducks*, I dare not say whose, for alas! no catalogue. As I proceeded in trying to see the birds, my labours in the dark were interrupted by the squalling of fowls being caught and thrust into hampers, and little boys chasing an escaped Game cock. But, as far as I could judge of the Chippenham Show, seen (?) under the above-named difficulties, I must say it was a very nice little exhibition; my county paper says, I see, "It was the best ever held at Chippenham." Why should we not have more shows in Wilts? What say the good people of Devizes? Surely Calne and Chippenham should not beat the county town Devizes!

"Awake, arise, or be for ever fallen."

Cattle, and sheep, and pigs appear no more, and poultry hold up their heads above all just now, for I saw Game cocks crowing yesterday at Chippenham on the very spot where for thirty years mighty, fat bulls had bellowed.—WILTSHIRE RECTOR.

### EXHIBITION OF BIRDS IN THE ATHENÆUM ROOMS, DERBY.

THE eighth annual competition of birds took place in the above room, on the 6th inst., and the number exhibited far exceeded that at any previous show. The greater portion of the birds were Canaries, shown by members of the Derby Society, but we noticed many fine British and foreign specimens. In addition to the above there were choice Dogs, Fowls, Rabbits, Pigeons, and cases of stuffed birds, the whole of which tended to form the show into one of an interesting and attractive kind, and the best the Society has held. There were here and there excep-

tionally rare specimens, for instance a pure white Blackbird, belonging to R. Cox, Esq., a pair of Linnet and Canary mules, shown by Mr. G. J. Barnesby. A pen of Game Bantams, exhibited by Mr. J. Langley, Mickleover, commanded much notice, as did also those shown by Mr. Draycott, Messrs. J. Bennett, Eyre, Keys, and others. Mr. Harpur's Rabbits were very attractive, especially for their length and breadth of ears, and other points forming prize animals, more especially considering their ages. The Canary classes were generally admired, there being a few good Belgian birds, and many of the Norwich breeds exceedingly rich in plumage. The two classes of Lizards, although strong in competition, were not, except in two or three instances, so fine as formerly. The mule birds were not generally so good as last year, and the first prize in each class of the young birds was easily gained. Altogether there were about 700 birds shown.

The awards were:—

#### BIRDS HATCHED IN 1865.

BELGIAN (Clear Yellow).—First, J. Martin. Second, S. Bunting. Third, J. Spencer. Fourth, H. Adams.  
 BELGIAN (Clear Buff).—First, R. Whiteacre. Second, J. Martin. Third, J. Spencer. Fourth, S. Bunting.  
 BELGIAN (Marked Yellow).—First, S. Bunting. Second, R. Whiteacre. Third, J. Martin. Fourth, G. J. Barnesby.  
 BELGIAN (Marked Buff).—First, R. Whiteacre. Second, J. Martin.  
 BELGIAN (Variegated Yellow).—First, J. Martin. Second, J. Bexson.  
 BELGIAN (Variegated Buff).—First, S. Bunting. Second, J. Martin. Third, R. Whiteacre. Fourth, T. Crooks.  
 NORWICH (Clear Yellow).—First, E. Orme. Second, J. Bexson. Third, R. Hodgkinson. Fourth, H. Beeston.  
 NORWICH (Clear Buff).—First, E. Orme. Second, J. Bennett. Third, J. Bexson. Fourth, G. J. Barnesby.  
 NORWICH (Marked Yellow).—First, E. Orme. Second, E. Coke. Third, S. Bunting. Fourth, A. Upton.  
 NORWICH (Marked Buff).—First, J. Knight. Second, T. Crooks. Third, G. J. Barnesby. Fourth, E. Orme.  
 NORWICH (Variegated Yellow).—First, G. J. Barnesby. Second, E. Coke. Third, R. Hodgkinson. Fourth, S. Bunting.  
 NORWICH (Variegated Buff).—First, G. J. Barnesby. Second, S. Bunting. Third, S. Reynolds. Fourth, J. Bexson.  
 NORWICH (Crested Yellow).—First, J. Knight. Second, J. Bryan. Third, T. Crooks.  
 NORWICH (Crested Buff).—First, R. Hodgkinson. Second, J. Bexson.  
 LIZARD (Golden-spangled).—First, J. Knight. Second, S. Bunting. Third, W. Vic. Fourth, A. Upton.  
 LIZARD (Silver-spangled).—First, A. Upton. Second, H. Macconnell. Third, S. Bunting. Fourth, R. Hodgkinson.  
 CINNAMON.—Prize, J. Bexson.  
 YELLOW CRESTED OR COPY.—First, E. Orme. Second, T. Crooks.  
 BUFF CRESTED OR COPY.—First, R. Bond. Second, E. Orme. Third, J. Bryan.  
 YELLOW SPOT OR CROSS-BRED.—First, A. Upton. Second, J. Woodward. Third, S. Bunting.  
 BUFF SPOT OR CROSS-BRED.—First, H. Macconnell. Second, T. Crooks. Third, R. Hodgkinson.  
 JONQUE GOLDFINCH MULE.—First, V. Wilkinson. Second, J. Bexson. Third, E. Coke.  
 MEALY GOLDFINCH MULE.—First, G. J. Barnesby. Second, J. Bennett. Third, V. Wilkinson.  
 LINNET MULE.—Prize, S. Reynolds.

#### BIRDS OF ALL AGES.

BELGIAN (Clear Yellow).—First, E. Bemrose. Second, G. J. Barnesby.  
 BELGIAN (Clear Buff).—First, J. Bexson. Second, J. Martin. Third, E. Bemrose.  
 BELGIAN (Marked Yellow).—Prize, E. Bemrose.  
 BELGIAN (Marked Buff).—Prize, E. Bemrose.  
 BELGIAN (Variegated Yellow).—First, J. Martin. Second, E. Bemrose.  
 BELGIAN (Variegated Buff).—Prize, E. Bemrose.  
 NORWICH (Clear Yellow).—First, E. Orme. Second, J. Martin.  
 NORWICH (Clear Buff).—First and Second, E. Orme. Third, H. Bexson.  
 NORWICH (Marked Yellow).—First, E. Orme. Second, G. Welch.  
 NORWICH (Marked Buff).—Prize, J. Martin.  
 NORWICH (Variegated Yellow).—First, E. Orme. Second, J. Beston.  
 NORWICH (Variegated Crested).—Prize, J. Goodland.  
 LIZARD (Golden-spangled).—Prize, E. Bemrose.  
 LIZARD (Silver-spangled).—Prize, E. Bemrose.  
 JONQUE GOLDFINCH MULE.—First and Second, G. J. Barnesby.  
 MEALY GOLDFINCH MULE.—Prize, E. Bemrose.  
 LINNET MULE.—First and Second, G. J. Barnesby. Third, J. Knight. Fourth, W. Vic.  
 SISKIN MULE.—Prize, E. Sykes.  
 GOLDFINCH.—First, J. Knight. Second, B. Reader.  
 BLACKBIRD.—First, G. J. Barnesby. Second, J. Collins. Third, J. Roome.  
 SONG THRUSH.—Prize, W. N. Kay.  
 GREY PARROT.—Prize, T. Eyre.  
 —J. G. BARNESBY, Derby.

### DYSENTERY IN BEES.

WHAT CAUSES IT, AND WHAT IS ITS EFFECT UPON BEES?

As the time is coming for bees to be affected with this complaint, would you put it to your apianian readers to be so kind as to give their experience of this plague among bees, and to say what they consider is the cause, as we may by these different views of this disease arrive at its cause and cure? It is evident that it cannot be caused by the hive, as out of five or six straw hives, you will sometimes have only one affected, and at other times two or three out of this number. Now, if it is not the hive that causes it, what is it? Will your correspon-

dents say what they think of the matter, and we may then find out a remedy?—A. W.

[We shall be glad of information on these points.—Eds.]

## TWO "DEVONSHIRE BEE-KEEPERS."—AN OLD APIARIAN SOCIETY.

WE extract the following sketch referring to two "worthies of Devon," from an article entitled "Sixty Years' Changes," which recently appeared in "All the Year Round." We have little doubt that we are correct in attributing the article itself to the pen of Sir John Bowring, late Her Majesty's Plenipotentiary-Extraordinary in China, who, after many years of official travel and adventure on the outskirts, and even beyond the confines, of civilisation, has at length settled down to the enjoyment of his retiring pension, and as much of rest and leisure as his active and untiring disposition will admit of, in the vicinity of his native city Exeter, and in the immediate neighbourhood of our valued contributor Mr. Woodbury, whom our apiarian readers will have little difficulty in recognising in the bee-keeper whose fearless and dexterous manipulations of his obedient little subjects appear to have been but recently witnessed by the septuagenarian chronicler of "Sixty Years' Changes."

Speaking of the town of Moretonhamstead, usually abbreviated to Moreton (Moor-town), situated on the borders of Dartmoor, and some twelve miles west of Exeter, Sir John says, "The Baptist congregation was under the care of a gentle Welshman, named Jacob Isaacs. His father may have been Isaac Jacobs, for shiftings and transpositions of Christian names and surnames were then, and may still be, a Cambrian *naſgo*; but he was not without his renown. He had written a book called *The Apiarian*, and was very fond of a quiet joke, declaring that he was one of the most ancient of monarchs, being king of the *Hirites*, though their associations with the patriarch Jacob were not of a very creditable character. On grand occasions a cupboard was opened for his guests, and the produce of the hive introduced—honey, mead, metheglin—and he carefully explained the essential differences between the two drinks, which I believe are absolutely the same, the one being the Saxon, the other the Welsh name. However, he insisted that the bee furnished the classical ambrosia and the nectar of the gods, and that neither gourmand nor gourmet could have tasted anything superior to either. Yet, strange to say, though so much of his life and his thoughts were devoted to his bees, they exhibited no affection, no partiality, but much ill-will towards him. Instead of a protector and a friend, they deemed him an intruder and a foe; and when he approached his hives he always covered his hands with gloves and his face with a veil, and did not hesitate to call his subjects unjust and ungrateful. Have bees no more discernment? Have they their preferences and their prejudices? For I have lately seen a bee-master open his hives, take out every separate comb, lay them on the ground, hunt out the queen, and, having discovered her amidst the bustle and the buzz of thousands, restore the combs to the hive, and again close it, unstung and unmolested by any of the community."

Under correction of Sir John Bowring we may state that the surname of the "gentle Welshman" was not Isaacs but Isaac, whilst his book, which was first published in 1793, and reached a second edition in 1803, was entitled "*The General Apiarian*," being dedicated to the Western Apiarian Society, of which the author himself was the Secretary and master spirit.

This Society, which appears to have been the first of the kind which existed in England, was established at Exeter in 1797, and consisted of between forty and fifty members, who subscribed their annual guinea or half guinea each, met twice—namely, in the spring and autumn of each year, and offered prizes for the largest quantity of honey and wax taken without destroying the bees, as well as rewards at their discretion for any useful invention or discovery relating to the apiary. These meetings seem to have been held regularly for about a dozen years, whilst an account of the Society's transactions was first published in 1800, and continued annually, being sold, we believe, for 2d. These "Transactions," of which so far as we know, only one copy is now extant, are well worth reading, and in them may be found some very interesting contributions and episodes in the task to which the Society, under the guidance of its enthusiastic Secretary, seems to have sedulously applied itself—viz., the improvement of apiculture, and investigation of many points which at that time remained obscure in the natural history of the honey bee.

Among them we find a communication from Bonner the Scottish apiarian, to which was awarded "the premium of the third rate" for "several methods of ascertaining whether a hive has a queen or not." These methods are—First, To watch if the bees carry loads on their thighs. Second, To turn up the hive, blow a little smoke among the combs, and see if there be any brood or young bees in the cells. If upon rubbing the covers off a few of the sealed cells whitish fresh maggots are found, it may be relied on the hive has a queen. Third, If bees kill drones in autumn, it is certain the bees have a queen. Fourth, To drive the bees into an empty hive and search among them for the queen. On the contrary, it may be suspected that bees have no queen—First, If a hive have drones when others in its neighbourhood have none. Second, When a hive in autumn has no young, while others around it have them. Third, If the bees in a hive carry no loads in autumn while the neighbouring hives are busily employed.

In the "Transactions" of 1801 is printed a translation of Huber's first three letters, the entire work having been published at Geneva in 1792. For these contributions, which excited no little attention at the time, the Society were indebted to Mr. Henry Allnutt, of Great Marlow, Bucks, who, however, accompanied them with a full description of his own theory regarding the production of queen bees, which he believed to proceed from mature workers, which at a proper age and state were immured in royal cells, whence in due course they emerged perfect queens! It is not a little curious that in the spring of 1806 this fanciful theory seemed to receive confirmation, from Mr. Isaac believing that he had found in a hive forsaken by the bees "three royal cells, with common bees sealed in them." This appearing to him (as well it might) "a strange circumstance," he presented an account of it to the Apiarian Society, who, being equally impressed with the novelty of the occurrence, caused an advertisement to be inserted in several public prints, with a view to obtain an elucidation of it, when Mr. Allnutt again wrote a letter of some length, applying the occurrence in support of his own peculiar views. Upon this Mr. Isaac was directed by the Society to investigate the point, which he accordingly proceeded to do, by means of a unicomb hive, rather primitive construction, which he possessed, and which he quaintly styles "*The Discoverer*." Full details of the investigation are given, and the result was, as was to have been expected, tolerably conclusive as to the fact that "the young queen bee is produced from an egg laid by a queen." Notwithstanding all this, the redoubtable Mr. Allnutt rejoined, and stoutly upheld the correctness of his theory. This produced a second investigation, conducted with the aid of two "discoverers," and the results were so conclusive, that Mr. Allnutt succumbed to the inexorable logic of facts and attempted no further reply.

## LIGURIANISING AN APIARY.

Would you inform me whether, when a virgin queen leaves her hive for a wedding flight, she is attended by drones from her own hive, and if she, being a Ligurian, mates with a Ligurian drone rather than with a black drone; or, in other words, whether she would mate with a black drone only in the absence of a Ligurian drone? My reason for making the inquiry is, that at present I have only black bees, and am desirous of converting all my hives into hives of Ligurians, making the black bees instrumental in expediting the change, and I wish to estimate the amount of risk, as nearly as I can, of keeping both kinds of bees so long as may be necessary for carrying out the object I have in view. Would it be advisable to cut the drone-cells out of the combs in the hives of black bees early in the spring? I think if I can succeed in establishing the Ligurians without a cross I may probably afterwards be enabled to keep them pure, as I am not aware that bees are kept elsewhere in my neighbourhood.—M. S.

[We very much doubt whether a virgin queen is ever "attended" during her wedding flights by the drones of her own or any other hive. So far as our observations extend, the meeting seems quite left to chance, and neither Italian nor common queens appear to manifest the slightest preference for drones from their own hives, or even of their own colour. The best mode of Ligurianising an apiary is, in our opinion, to be content the first season with putting young Italian queens at the head of all young stocks, destroying neither black drones nor drone-brood, nor taking any trouble about them. All these queens will, for reasons which we need not enter into here,



breed pure Ligurian drones the following season, when all black drones should be kept at as great a distance as possible; and young queens bred from the original will then stand a good chance of true impregnation, and should be substituted for such of the first-year's queens as have proved to be hybridised.]

### THE ENEMIES OF MY BEES.

In the "Quiver" for November the "Times' Bee-master" contributes a characteristic paper entitled "The Enemies of my Bees." Could none of our southern friends, therein styled "the fantastic and professedly scientific apiarians," on finding themselves classified amongst the "chief enemies," along with "spiders, toads, wasps," &c., draw from this "Quiver" some sharp arrows to pierce the absurdities of the learned "master?" Is the uncomb-hive "a system of cruelty to animals?" the "bar system" "chains and slavery?" Will the earnest student, it matters not of what branch of science, say in the present day that "further information is really supererogatory?"

The "Times' Bee-master," has evidently never perused the adventures of "One-eyed Toady," or he would not say, "that the only way to get rid of him (the toad), is to seize him by the hind leg and pitch him to the greatest possible distance;" nor yet had a severe "attack of the Blues," and afterwards be able to write, the evil the toad perpetrates is "very limited."

Whatever the readers of the "Times" or "Quiver" may think of the following masterly system of bee-feeding, I feel pretty confident those of "our Journal" will not readily adopt it. "It is wise policy, and never a loss, to feed them, by placing opposite the hives a deep soup-plate filled with sugar and beer well boiled, and placing on the surface for the bees to rest on a circular piece of paper the size of the plate, perforated with holes each the size of a pin-head." Do none of Dr. Cumming's neighbours keep bees? Possibly he may not yet have learned how to distinguish his own from theirs. What a pity some one did not procure a colony of Ligurians, assuming the little marauders would deign to sip the nauseous mess, he would speedily discover that his system of feeding was anything but "a wise policy," on the contrary a very great "loss." Take the case of a friend, on driving a hive of bees this autumn, at "our village," fully a mile distant, and while sweeping out some odd stragglers at the close, first one and then another of my indefatigable yellow-jackets appeared upon the scene, and having fairly scented "the carrion from afar," most determinedly sought to share in the booty, but he, being fully alive to Italian brigandage, beat a precipitate retreat into the house.

When the "Times' Bee-master" publishes a second edition of "The Enemies of my Bees," it is to be sincerely hoped he may include in the list of "chief" those inexperienced authors, who, by reproducing, perpetuate the blunders and exploded notions of their predecessors, thereby detracting from the happiness and well-being of our little favourites.—A RENFREWSHIRE BEE-KEEPER.

### BEE-FEEDING EXTRAORDINARY.

The following story, for which I am indebted to a clerical friend, is so characteristic of the ignorance and self-conceit of many rustic bee-keepers, that I deem it worthy of a place in the columns of "our Journal."—A DEVONSHIRE BEE-KEEPER.

"I have been trying to teach some of the cottagers better ways as to bee-keeping as well as to higher things, but find it difficult to make them follow my advice, so wedded are they to old and odd ways, &c. A short time ago I looked over a villager's little stock of bees consisting of some three or four huts, two of which I found very light indeed, only a few pounds each, some comb, little or no honey, and few bees, swarms of this past season. I, of course, advised him to feed at once, gave him proper instructions, and placed some pickle-bottles at his disposal.

A few days days since, going my rounds, I turned into my friend the tailor's cottage. "Well, S., how get on your bees? do they take their food kindly?" The man looked rather strange, and after a little hesitation replied, "Well, sir, I have just fed them." "Let us see how you have managed it?" "Well, sir, I bought them a penny currant bun each, put the buns in saucers, poured beer upon them, with a little dust of sugar, and put the saucers under the butts; and I am told that now they have enough to take them through the winter." Put this into the Devonshire dialect, and when you read it aloud, you shall hear what I heard.—W. L.

### BEE AND BEE REQUISITES AT THE TORONTO PROVINCIAL SHOW.

AMONG the many improvements going on in this country, as developed in the late exhibition at Toronto, we were much interested in those presented in connection with the keeping of bees. Twenty-five years ago the humming of the honey bee was seldom heard, and honey in the comb was nowhere to be obtained; but now we cannot travel many miles without meeting with the apiarian, and learning lessons of industry and skill from his ingenious and persevering family. Thanks to the new "bee-observing hives," fast multiplying among us, we can familiarise ourselves with the previously hidden mysteries of the hive. Among the hives was one which will soon be patented, called the "people's hive." This is a moveable comb hive, which indeed has become an essential feature of any really good hive, giving, as it does, full control of both comb and bees. These hives, with the large and small boxes of beautiful honey shown in other departments of the exhibition, cannot fail to have given an impetus to this branch of rural economy. It is manifest that the keeping of bees is becoming more general in Canada, and we take some credit to ourselves for this, as being, to some extent at least, the result of the constant and urgent recommendation of bee-keeping in these columns.—(Canada Farmer.)

BEES.—In reply to Mr. S. Brierley's letter in THE JOURNAL OF HORTICULTURE, October 31st, I shall be glad to show him my apiary if he is in this part of the county. I have several kinds of hives, including Woodbury's bar-and-frame hive, Nutt's, also Huber's book or leaf-hive. I think mine an improvement on that kind of bee-keeper's hive. I have taken several bell-glasses of honey this season, also a splendid super from the top of one of Woodbury's hives. I have also a glass hive made after the style of Woodbury's bar-and-frame hive, which has done well this season.—A SOUTH LANCASHIRE BEE-KEEPER.

### OUR LETTER BOX.

NATURAL FOR POULTRY, &c. (L. S. D.).—Apply to Mr. Agate, Slougham Mills, Crawley, Sussex. You had better have ground oats, not merely the meal. They are much more nourishing.

SWALLOWING WITH DIFFICULTY (A.).—To, our hen which swallows hard food with difficulty, sits with her neck drawn back and bill pointing upwards, showing that she is in pain after eating, we advise you to continue the castor oil in good doses. Follow it with bread and ale given freely twice every day. Let the bird have no whole food, only meal and bread, and let all its water be strongly impregnated with camphor. Any preparation of iron is a good medicine for the disorder.

FOOD FOR PIGEONS (Evelyn).—Your Pigeons being of the common sort you may feed them on barley or Indian corn once a-day in the yard. There are times when the Pigeons cannot find anything in the fields, as when the ground is frost-bound or covered with snow, or in summer when covered with growing crops.—B. P. BRENT.

BREEDING GREEN CANARIES (A Subscriber).—A green cock and green hen will breed green young ones; but if you desire to improve the green colour it is advisable to cross with a good rich Jonque. I do not know of a better book on Canary breeding than the one you mention; but you will find some notice about them in "Reichstein's Cage Birds."—B. P. BRENT.

RED LICE IN BIRD CAGE (S. D. A. H.).—Keep the cage clean; brush all the joints, cracks, and crevices with linseed oil, and dust flowers of sulphur over them and in them.—B. P. BRENT.

ERRATUM.—Page 436, line 17, for "men do not go on all sides," read "all sizes."

FOREST FOWLS (Ornis).—That you purchased the fowls of the party you name we have no doubt, and it may be that they came from the forest of Exmoor; but they may have been Hamburgs originally notwithstanding. We are quite sure that there is no original breed there, and our reporter is a gentleman who knows as much about fowls as any one in this country.

HEAT OF INCUBATOR (Bristol).—Whether the eggs be large or small the same temperature is required—105°.

ILLUSTRATED POULTRY BOOK (J. Jenner).—It will be published in a few days, advertised, and the price announced. It can be had from our office.

FEEDING OUT OF A BOTTLE (W. W. W.).—Fluid honey or any other kind of liquid food, may be administered to bees by means of the inverted bottle; but what we ourselves have long used, and find an efficient substitute for honey, is lump sugar and water, in the proportion of three parts (by weight) of sugar to two parts of water, boiled a quinte or two.

VENTILATING (A. R.).—We do not ourselves ventilate Woodbury hives further than by never screwing down the crown-boards, which permits a slight degree of side ventilation at all times.

SENDING A QUEEN BY RAIL (Idem).—Queen bees may be transmitted by rail in light wooden boxes, 5 inches long by 4 inches wide, and 3 inches deep, although the exact size is not very material. Ventilation must be duly cared for, and a bit of sealed honeycomb, two or three inches square, should be inserted, and firmly fixed in its place by way of provision during the journey. A hundred workers will form a sufficient suite of attendants.

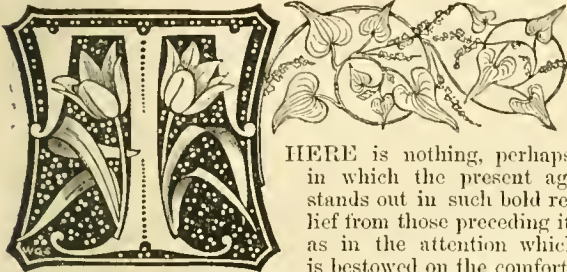


## WEEKLY CALENDAR.

Day of Month.	Day of Week.	DECEMBER 5—11, 1865.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.				
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	-				
5	TU	Common Groundsel flowers.	48.5	34.5	41.5	23	52	af 7	50	af 3	17	7	50	8	17	9 5	339
6	W	Shepherd's Purse flowers.	47.8	36.1	41.9	19	53	7	50	3	27	8	30	10	18	8 39	340
7	TH	Chickweed flowers.	48.2	36.2	42.2	18	54	7	50	3	35	9	2	11	19	8 13	341
8	F	Skylarks congregate.	44.0	34.2	39.1	17	55	7	49	3	42	10	30	11	20	7 47	342
9	S	Polyanthus flowers.	46.6	35.5	41.1	16	56	7	49	3	47	11	35	11	21	7 20	343
10	SUN	2 SUNDAY IN ADVENT.	46.8	33.1	39.9	24	57	7	49	3	morn.		after.	(	6	53	344
11	M	Wallflower flowers.	45.7	32.6	39.2	16	58	7	49	3	50	0	41	0	23	6 25	345

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 46.8°; and its night temperature 34.6°. The greatest heat was 60°, on the 10th, 1848; and the lowest cold, 14°, on the 5th and 6th, 1844. The greatest fall of rain was 1.02 inch.

## PLANTS FOR DINNER-TABLE DECORATION.



HERE is nothing, perhaps, in which the present age stands out in such bold relief from those preceding it, as in the attention which is bestowed on the comforts

and luxuries of life, and on the combination of these with ornament. In fact, appearances in many instances take precedence of utility, and the legitimate object that ought to be studied only obtains a secondary place. Thus, the outer polish of an ordinary pencil is put forth as a compensation for the very indifferent quality of the black lead it is, or ought to be, made of; and other things have in like manner changed their character. New wants have arisen; and as they, like those which preceded them, require attention, the field of operation is continually widening. In the gardening world advances have been made in certain channels for some years with more or less rapidity, and with now and then a divergence to take in a fresh subject, like the progressive growth of a tree. On the great usurping position held by the bedding system it is not my intention to enter; suffice it to say that it has not absorbed the whole attention of those who preside over the ornamental department. Plant-growing still receives its meed of attention, and the cut-flower department is perhaps more patronised than ever, especially in its relationship to ladies' bouquets. Good taste is, perhaps, in no instance so completely ignored as in these ugly bundles; but I fear that in touching on this subject I am treading on dangerous ground, and I will therefore leave it for one not less fashionable at the present day, but which has certainly more of the merit of appearance with infinitely less of the inconvenience of the other. A few hasty notes on dinner-table decoration in so far as gardening is concerned, may be of some service to those who are called on for the first time to undertake the duty of providing the necessary materials.

The decoration of the dinner table with plants or cut flowers has of late years come to be considered indispensable, and when well done perhaps nothing adds more to the general effect of the table. The arrangement of such decorations has been more than once discussed in the columns of this Journal, and the prizes given for the purpose at the Royal Horticultural and other shows have done much to direct the public taste. There has been some diversity in the appliances used; but in general the design first of all exhibited by the Misses March has, with some little variation, been approved of, other designs following in much the same track. Now, with all deference to the opinions of those who are justly regarded as public jurists, I yet hope to see the views which I put forth at the time this class of table ornament first attracted attention

become more generally adopted. What I contended was, that all objects of this kind placed on a table should stand either below the line of vision between the countenances of persons sitting on opposite sides of the table, or that they should be above that line—in other words, that a clear space of from 14 to 24 inches upwards, measuring from the tablecloth, be left free of all impediments. Assuredly there is sufficient scope for the decorative art below the one limit and above the other, without introducing the floral screen. On this point, however, I will not at present say more; and as the character of the framework of the flower-stands in most cases determines the height, I will suppose the stands to be either of glass or china, or a combination of the two; or, probably, a silver stand or frame with appendages may be appointed for the purpose. The hints here given for their dressing with flowers can only be few, as it is not easy to describe how it should be done, although a few notes of the class of flowers and foliage best suited to the purpose may be of service.

The flowers for furnishing such a stand may consist of two classes, upright and pendant, the latter being for the outer rim of a dish or stand; of this class Fuchsias present one of the best examples, while Roses represent the other, and perhaps there can be nothing better than these two. As, however, both cannot always be had, such flowers as Pinks, Chrysanthemums, Verbenas, Calceolarias, and a host of others answer very well the purpose of supplying the bulk of those wanted to fill a cup, dish, or bowl, and they can easily be made to stand well if some damp sand be put therein. There is, perhaps, no objection to these flowers presenting a sort of regular flattened appearance, as that will be sufficiently broken by the projecting dressings, which in most cases I would recommend to be of foliage. Assuming, therefore, that a circular pan or bowl has to be filled with flowers, these may present a sort of semi-globular or mushroom-headed appearance, with pendant ones hanging round the sides, the whole not by any means crowded, and with foliage intervening. Some more foliage of a graceful character may be introduced to break the outline, and, as it were, throw a thin veil over the beauty below. Such sprigs, however, ought to be very light, and not by any means stiff. Maiden-hair Fern is one of the loveliest of plants for this purpose, but some ornamental Grasses are likewise very suitable, not the least useful being the old Ribbon Grass. One or two leaves of the Bambusa are also good, as well as Cyperus alternifolius and its variegated variety. Some other Ferns may also occasionally be introduced, but in general the Adiantums are the best. Whatever is used should have a light, graceful, easy character, and be placed in the same position as when growing. Of course, great variety may be obtained in this way, and it would not be desirable on any account to have the decorations alike on two consecutive occasions. For a change flowers terminating in a spike, such as Delphiniums, &c., may be used, but they are less effective than others, such as those described above; but where great height has to be obtained they may be indispensable.



I have been supposing that a shallow bowl has been operated on, and that it is to be elevated more or less on some stand or frame which forms part of the feature, and that it is not destined to be hidden, although an intermixture of foliage with its parts may be advisable. Assuming the stems or supports of the stand or frame to be glass, china, or white metal, a twist round with some small-leaved creeper will improve the general effect. Sprigs for this purpose are perhaps one of the most scarce objects in the whole list of wants, as by far the greater number of creepers have too large a foliage, or sprigs with small leaves are so thinly scattered over the branch as to fall short of the requirements of the case; and it is not advisable to unite twigs of other things if it can be avoided, as it is not easy to conceal the junction. In some cases the smaller-leaved *Vine* has been used with advantage, or some of the greenhouse *Kennedias*, and in cases of necessity a plant not of a twining habit, *Tradescantia bicolor*, may be employed. There are many plants that look worse than the common Ivy when the leaves are small and numerous, and we have often enough cut twigs from an out-door Passion-Flower that had been hanging loose; and its foliage, not being in contact with anything else, was stiff, and presented a more natural appearance than it is possible to give to foliage that has been entangled. Sometimes a few branches of Ice-plant are united for the purpose referred to, but they look better when employed for the decoration of the fruit-dishes. The materials for partially clothing the stems of such stands will suggest themselves to the operator in many ways; but in most cases I would advise him to arrange them as much as possible in the position in which they have been growing, and the less distortion in foliage by their being reversed the better. This, however, is not easily done with any branches but those which either grow or hang free of all others, or of anything else fettering their growth or confining it to a certain direction.

Stands of the above description also sometimes require a sort of bottom or mat, which forms an important feature to the whole, the white tablecloth setting off to every advantage whatever foliage may be placed in contact with it. A very good mat for such a purpose may be made by sewing a number of carefully selected Portugal Laurel leaves on paper, with their points all outwards in a circular or star-shaped manner, taking care to have the leaves flat; these look very well in this way. Other foliage may also be made to perform the same office. One of the very prettiest materials is the tip ends of branches of fine-leaved *Pinuses*, as the Weymouth Pine, or *Pinus excelsa*. Laid carefully around a circle, and spread neatly and not too closely together, they have a very graceful and neat appearance. The sturdy-leaved *Pinuses* do not answer so well, but I have for a change used small sprigs of common Yew or of *Arbor Vitæ*; while, perhaps there is nothing in the whole round of foliage that looks better than the extremities of the fronds of the most common of all Ferns, the common Brake, Male Fern, and Polypodium. Materials for this purpose are, however, more plentiful than creepers for the stem, and the above examples are merely given to show what is likely to suit the object in view.

Another, and in some respects a more creditable, class of table ornaments are well-grown plants of the proper size. The preparation of plants for table decoration has become one of the requirements of the day, and as the art is yet in its infancy it is likely that many plants not yet tried may be found useful for the purpose, or those who have tried them may not have made their experience sufficiently known. The conditions under which such plants are employed preclude the use of many of the most showy ones, nevertheless much may be done to modify and accommodate a large number to the purpose. One of the principal difficulties to be surmounted is to select a class of plants that will attain a respectable size in a small pot, as there is generally a dislike to seeing a large pot on the table; uniformity of growth is also requisite, all sides being expected to look well. The foliage, too, should, if possible, droop over, so as to hide the pot a little, although the latter, I expect, is concealed in some of the fancy coverings now so plentiful, or by a vessel on the table to receive it. Whether or no this be the case, it is desirable that the foliage hang over a little; a scanty upright growth, like that of the Hyacinth, *Amaryllis*, &c., looks poor. Perhaps of the most ornamental plants for this purpose are the *Adiantums* of the Maiden-hair class, and many other Ferns, of which *Lomaria gibba* is a very good type. Plants of a symmetrical habit with plentiful foliage are the best for this work, and the same requirements seem to be equally essential in flowering-plants as

in those whose beauty is derived from their foliage. Another point must be considered well, and that is the class of plants that look well in the artificial light that is generally used where dinner-table ornamentation is wanted. Yellow flowers, as a general rule, do not look well; while, on the contrary, those which are scarlet, rose, mauve, and purple having a strong crimson tint, do. Blue is not showy under such circumstances, but a clear white is good when surrounded by a good healthy mass of green; and under the same circumstances the yellow of a *Cytisus* looks tolerably well, and as a change may come in useful. In general flowers having a circular outline look best at night. Whether there be any affinity between star-shaped plants and the celestial lights it is needless here to inquire, but blooms of that outline, such as *Cinerarias* and Chinese *Primulas*, are as good as anything I know of, and the nearer their flowers are to a good crimson or rose colour the prettier they look, although light-coloured ones are by no means ineligible; and the habit and general features of the plants in other respects fit them for occupying the foremost ranks among flowering plants.

Another class of plants adapted for table ornament consists of these ornamental by their fruit; this class, though not a numerous one, is increasing, and may eventually become the most popular. It has the merit of being the first that was used for dinner-table decoration. A pot of Grapes placed on the table is by no means uninteresting, especially if the fruit be good. Strawberries in like manner are in request at the right season, and good pots of them excel any fruiting plants with which I am acquainted. There are, however, many plants grown expressly for the beauty of their berries, and most of these may be turned to account in dinner-table decoration. I expect that in time their number will be increased, and probably some of the Japanese *Aucubas* may be induced to furnish berries on plants sufficiently small to suit the purpose.

A short list of the fruit-bearing and other plants which have been used for dinner-table ornamentation will, perhaps, enable the reader to suggest additions, which no one will be more glad than myself to see recorded in THE JOURNAL OF HORTICULTURE.

*Skimmia japonica*.—Healthy plants look well when the foliage is ample and good.

*Ardisia crenulata*.—The upright habit of this plant is somewhat against it, nevertheless the fine colour of its berries, and their long continuance in perfection entitle it to a place.

*Solanum capsicastrum*.—This is indispensable, and a taller species with berries of a similar size is also good; the variegated form is no improvement for table decoration.

*Strawberries*.—No comment is required on these, as, for the end in view, they come nearer perfection, when well managed, than any other plant.

*Grapes*.—The size of the pot and bulk of the plant is an objection. Sometimes, however, two plants united together, so as to form an arch, look well.

*Oranges*.—There are two or three kinds, as the Otaheite, Mandarin, and Tangierine, which bear well in a small state, and the variegated forms are also available, but do not fruit so well as the plain-leaved plants.

*Capsicums*.—Some fancy varieties of these look well; a yellow-berried one is ornamental at all times.—J. BOSSON.

(To be continued.)

## CULTURE OF THE CHRYSANTHEMUM.

I SEND you my practice in cultivating the Chrysanthemum. I find, on looking over my doings of the garden (and, by the way, I may say that every gardener ought to keep a journal of garden work, it is so useful for referring to and comparing the effects of seasons), that I potted the cuttings on January 10th, and on March 14th repotted them into 36-sized pots, one in each pot, and placed them in a cold frame till April 26th, when I turned them out of doors, along with bedding plants, where a little protection might be given in case of frost.

On the 26th of May I gave them their final shift into their blooming pots, from 8 to 13 inches in diameter, and plunged them in the kitchen garden in a plot of ground set apart for them, and which was situated between two rows of Peas, so as to afford shelter. The plunging I consider a very important point in their culture. I plunge them to the rim of the pot, the rim resting on the surface of the ground and bearing the weight of the pot and its contents, for the hole is made 3 inches deeper than the pot, so as to permit of the escape of water



through the hole at bottom. By this means the lower leaves are kept green and the plants vigorous.

On the 28th of June I gave the plants their final stopping. On the first appearance of bloom-buds I give soot-water once a-week until the plants are in full bloom.

From many years' experience with soot I find it to be a cheap, safe, and effective stimulant; almost any plant enjoys a dose of it while in a growing state. My mode of preparation is to put about two bushels into a tub, fill it with rain water, and then work the soot into the water. It requires stirring a little for three or four days, and then the surface to be skimmed in three or four days more, and you will have it as high in colour and as clear as Burton ale.

I have this day measured a few flowers of my Chrysanthemums—Golden Queen of England is 5 inches in diameter, White Queen of England 4½, and other sorts in proportion. I should like to know how these sizes will compare with those grown by others.

I take no buds off, there being large quantities of cut flowers required for decorative purposes here, and also to have a good show in the conservatory. On the 4th of November I cut the first full-blown bloom, being three weeks earlier than last year.—S. BALDWIN, *Lancashire*.

### THE CULTURE OF THE VINE.

We have had another valuable paper on the Vine from Mr. Wills. Persons who have experience in the cultivation of that valuable dessert fruit must endorse, or nearly so, every statement that excellent article contains. Nevertheless, there are two remarks to which I cannot agree; one of them must be met solely by myself, as to the other I think I need not be quite so selfish, for I think one or two could be found to row in the same boat with me. I am exceedingly pleased to find that my invitation has been accepted by Mr. Wills, and I candidly confess, when I have the pleasure of seeing that gentleman here, I will do all I can to convert him to the prolongation of the syringe practice, and I have a strong impression that I have some battering rams that have done good service in battle, yet if stronger come into the field, why the weak must give way; yet the points must be watched. Who can tell what a visit to Bush Hall might do? Of course, this old ulcerated wound is my first exception, and it is also partly the ground of our argument; but I fancy that I hear Mr. Wills saying, "Well, I will wait another year, at all events, before I pay friend Whittle a visit. By that time he will have found out his mistake with the syringe." Well, be it so, if such should be the case I will frankly own it in these columns. I will either convince him that I am right, or I will myself side with the ministerial benches. Now, seeing the distance that Mr. Wills is from here, I can scarcely expect his friendly visit this winter. Our last house, however, has some good bunches, and I think would prove to Mr. Wills that the syringe has done no injury.

I am endeavouring this year to lay on my employer's table Grapes every month in the year, and to do so I have recourse to pot culture, and all who have had experience of that mode of culture will agree with me, I think, that it is a most excellent plan for early and late forcing. We have now ripe in pots some Grapes kept back as long as the season would allow—the usual number of bunches which ought to be allowed on each cane, I believe to be from six to nine (we have had, however, as many as seventeen bunches on one cane—Foster's White Seedling; but that number is too many, and the berries are naturally small)—these I hope we shall keep good until February. We have in one house started pot Vines, which I have no doubt, if all go on well, will be ripe by the end of next March, so that we shall be able to link the old to the new year.

I said at the outset, that Mr. Wills makes some very excellent remarks, just one I will notice—namely, that on the use of scissors in pruning; that system ought to be, and I think nearly is, discontinued by all experienced pruners in all pruning, and not in that of Vines alone.

I now come to the second exception, and here I must draw sword in self defence. Mr. Wills says, "I think if my memory serve me right, Mr. Whittle said he would give us a paper on the cultivation of the Vine in pots, &c." No, Mr. Whittle did not say so; but Mr. Wills did, and I replied in my former article that I was sure that I should read it with great interest. Now, our friend shows us that he is an excellent knifeman, as for the syringe we will say nothing about it, probably I can use that as well as himself; but one thing I am sure I cannot do

so well, and that is, use my pen. His articles have been throughout thoroughly good and practical, well worthy the attention of all Vine-growers, and I am certain that if he will favour us with an article on pot Vine culture, I shall, for one, hail it with delight. I will go so far as to say, that if he will first enrich your columns with his system of propagation and cultivation, I will then (probably my system may vary a little) give a few particulars of our management here. He has shown us that his rafter system is good, and I have no doubt that his pot culture will be equally useful, therefore, we cannot let him off without a good article.—A. WHITTLE, *Bush Hall, Hatfield, Herts.*

### TRITONIA AUREA CULTURE.

In answer to "A CONSTANT READER," *Crocusma*, or *Tritonia*, aurea is one of many bulbous plants which, though not hardy, will survive our winters with a moderate amount of protection. Planted 3 inches deep in moderately light rich soil, well drained, and warmly situated, a mulching of 3 inches of short dry litter in autumn is sufficient to prevent the frost injuring the bulbs. The first mulching may remain on, adding a little fresh soil in spring to take away the appearance of untidiness. This will cause the bulbs to be 6 inches below the surface, which is not too deep for them in order to be safe from frost. During the summer the plants will be much benefited by watering overhead on the evenings of hot days, and by occasional waterings during dry weather. When the foliage decays cut away the bloom-stems, and before frost cover with a few inches of dry short litter, which is to be removed in spring. The mulching should not be placed over the roots until December, for the bulbs immediately throw up the succeeding year's growth, and the shoots push through the soil, showing themselves before severe weather sets in. Should severe frost set in the shoots will perish as far as the frost penetrates into the ground, and if covered early the shoots will push through the protecting material, and be exposed. Early in December is a good time to cover the roots over for the winter, as the shoots will not grow much after that time, and the covering being removed in March the shoots will not have become long and blanched. It is best, however, to put on the protection before, and remove it after, frost at whatever season it may be required or not required, as the case may be. Under these circumstances this very fine late summer-blooming plant is hardy; but treated as an ordinary border plant I have found it hardy only in very warm dry situations, blooming later every year, and growing less strongly until its growths were so late as to be cut off by the autumn frosts, the flowers, foliage, and bulbs perishing. The first plant I put out was turned out of a pot in May; it bloomed finely in August, and withstood the severity of the succeeding winter unharmed, blooming well the second year, but a month later, and though it lived two more seasons it became much less, and did not flower, and in the fourth winter it perished.

It is as a pot plant that the *Tritonia* is most desirable, at least when so cultivated it is more certain of blooming finely. The best time to pot it is when the bloom-stems turn yellow. A compost of turfy loam, peat, and leaf mould in equal parts suits it well, adding sand liberally. All the old soil is to be removed so far as it comes away freely from the roots, and the pot being well drained, the bulbs are placed about 2 inches from the surface. After potting give a good watering, and plunge the pot in coal ashes in a cold frame, where little water will be needed, but the soil should not be allowed to become dust dry. Indeed, I have had pots of these plants in ashes in a cold pit with the soil moist enough up to March, and the shoots just showing above the soil, without having to water at all except at potting. Protection from frost should be afforded by a covering of mats over the glass. As the plants grow, water should be liberally supplied, and an abundance of air should be afforded, or they will grow up weak; give also a sprinkling of water from the syringe every evening in bright weather to keep down red spider, to which they are subject. In June the pots may be placed outside in a situation sheltered from wind, and being watered the plants will bloom finely, and form a succession to those kept under glass. When the flowering is past less water should be given, until the stalks turn yellow, when they are to be cut away, and the plant potted. To prevent the flower-stalks falling, neat stakes should be provided, and the flower-stems neatly fastened to them. During the winter the pots may be placed on the floor of a cool house just free from frost, care being taken not to allow



the soil to become very dry nor, on the other hand, very wet, and they should not be kept there after the young shoots show above the soil, and have grown an inch or two. The plants require light after that, and will bloom earlier by a fortnight than those in the frame, and the latter a fortnight earlier than those placed out of doors.—G. ABBEY.

### RIPENING THE MANGOSTEEN.

IN vol. xi. of the "Botanical Magazine" (third series), in the Number for May, 1855, will be found a full description of the Mangosteen alluded to by "UPWARDS AND ONWARDS," in his letter last week, together with a well-coloured plate of the flowers and fruit, which are certainly those of the true *Garcinia Mangostana*. My plants had, however, much larger blossoms of a beautiful crimson colour, and the fruit was generally brown, or reddish brown, spotted with yellow or green. There are many varieties of this splendid tree, no two raised from seed being exactly alike in either flowers or fruit. The one mentioned above seems to me from the picture to have had very inferior blossoms to most which I have seen.

I have no idea who first fruited the Mangosteen in England, although I believe it has been done several times previous to 1855. It was the Mango, not the Mangosteen, which was ripened at Walcot Hall, in 1826, and afterwards presented to T. A. Knight, Esq., and a paper was read on the subject in the same year to the Horticultural Society.—J. H.

### POINSETTIA PULCHERRIMA CULTURE.

FEW, if any, of our stove plants are so attractive at this dull season of the year as the Poinsettia. It is, however, its usual fate to be tortured; for you rarely see it in a healthy condition. If the following rules be strictly followed out success will be almost certain:—Take in January or February eyes from stout well-ripened wood in the same way as for Vines, insert each singly in a small pot in a mixture of peat, loam, and sand; plunge the pots in a good bottom heat of from 70° to 75°. In about three weeks the eyes will start into growth and make roots, and as soon as these have filled the pots the plants should be shifted into the next size of pot, with the soil as before, and replunged. A dung-bed is the most suitable place in which to start them, and to grow them till they become too large for it, which they will very soon be, but after they are well started any ordinary stove will suit them.

When about 8 inches high they should be stopped, I shall presume it to be about May, at which time they should have their final shift into 10 or 12-inch pots. They should be kept as near to the glass as possible; the natural habit of the plants being lengthy, they are apt to become drawn.

To have them fine they should not be stopped after May. I would rather have three or four fine heads than six or seven small ones. The soil for the last shift should be rather heavier, adding a little more loam than for the first pottings. Give plenty of drainage, placing one large crock over the bottom of the pot, and the remainder should be charcoal. Some recommend coddling to be mixed with the soil, but this I do not agree with, for it is then almost impossible to keep the soil from becoming sour. I find it much better to give them their manure in a liquid state; for I know of no plant that is so nice about water as the Poinsettia. If you give the plants only very little too much you turn them yellow, and if they are allowed to become dry off comes the foliage. They like, as most plants not aquatic do, a happy medium. Water should never be given without knowing their condition. I sometimes find it necessary to give them water twice a-day, and sometimes they will go two or more days without any, according to the weather. They like a good growing temperature, plenty of moisture, and constant syringing to keep down insects. I know of no plant that is so fond of the fumes of ammonia from the evaporating-pans, it seems to animate it and apparently it is almost impossible to keep the foliage entire without stimulants; I constantly keep my trough full of manure water from the dung-heap. All the stove plants seem to like it, especially fine-foliated plants. At shutting-up time I syringe it in amongst the pots. It will not do to keep it in the trough towards winter when strong fires are used, if it is it must be very weak. As the pots become well filled with roots weak manure water may be given three times a-week. Be sure not to give it too strong.

About November the plants will show signs of blooming, at

which time the points should be turned to the positions in which they can be best seen when entering the house. They may be turned in almost any direction, it is better to do it before they are fully expanded. Nothing can be more beautiful than about a dozen of pure scarlet points from 14 to 16 inches across, as I have them at this time. These, with some of the winter-flowering Begonias of a light colour, make the stove very attractive at this dull season.

As soon their beauty is over water should be gradually withheld, and about January they should be cut down to within two eyes of the bottom, and cuttings made if any are required. Unless a large number of flowers, or rather their showy bracts, are wanted on one plant, I prefer young plants to those that have been cut down. The old plants should be shaken out, repotted in small pots, and plunged like the young ones. Of course more heads are produced on the old plants.—CHARLES EDWARDS.

### CLOTH OF GOLD AND GOLDEN CHAIN GERANIUMS.

AS experience in different parts of the country when compared tends to confirm our estimate of the merits or demerits of plants, I think it right to answer the question put by Mr. Fish. We planted two beds with good established plants of Cloth of Gold Geranium where the sun, unobstructed, shone on them from 9 A.M. till 4 P.M. The plants began in the first week in June to retrograde, and by the end of July they had not more than two leaves on them. Golden Chain in the same place did tolerably. We planted the same number of beds where they had only two hours' sunshine the whole day; they were all that could be desired. I have seen Cloth of Gold planted in different gardens in different situations, but it will not stand the sunshine. Next year this would-be favourite must have its bed in the shade, and Mrs. Pollock must try the sun.—D., near Newark.

### GROWING STRAWBERRIES FOR THE MARKET.

I PURPOSE planting with Strawberries in July and August next, a field of about three statute acres, which has been for some years in grass. I do not enter into possession of the land until Christmas, and wish so to arrange that without horse labour I may employ as fully as possible the time of one man from January to July, with only occasional assistance. I have sufficient runners of the present year to plant half an acre in the month of March, and from these and my old plants will have enough in the course of the summer for the rest of the field. The land has been well drained and is a good loam, varying from 12 to 18 inches in depth, resting upon clay. I do not wish to have early Potatoes, or any other crop upon the land in the meantime, my only object being to have it in such condition as will allow of the planting of half an acre in March and the remainder in July, with as little additional labour as possible at planting-time.

Oblige me with such hints as will be of service in securing what I aim at. It would, I think, be of interest to your readers generally, to have a paper in the Journal descriptive of Strawberry-growing as practised in the great market gardens round London. In Lancashire the practice seems to be, to plant in spring in rows, with intervals of 3 feet between the rows, and Potatoes in the intervals. The runners are allowed to ramble, and when the Potatoes are taken up the intervals are kept clear with a light cultivator drawn by a pony. In September every alternate space is planted with Cabbage or Broccoli, and weeded by hand, the cultivator being still employed on the others. The fruit is taken to market almost exclusively in baskets of one dozen quarts, a quart weighing about 18 ozs. Pottles and punnets are almost unknown in the Lancashire markets, except in the employment of the latter for Plums of extra quality.—F. E.

[As you purpose to take no other crop off the land, we would trench down the turf surface, after forking or picking the clay subsoil and leaving it there, thus stirring the ground completely to the depth of the staple of from 12 to 18 inches. If the ground is in pretty good order, we would supply no manure, at the trenching, but depend chiefly on the soils at the bottom. Having thus rough-trenched we would give a coating of short rotten manure on the surface, and point it in so as to give assistance to the young plants at once. For a continuance we would plant in rows 2 feet apart, and 1 foot apart in the rows. If the plants do not grow strong in the neighbourhood, we would be content with 20 inches from row to row; but in



general after the second year, 2 feet will be found not too far apart. Did we plant half an acre in March at the distance, of 24 by 12 inches, and purposed planting so much more in July and August, we would use the spaces between the rows for planting temporary rows at from 6 to 9 inches apart, and lift and plant them as we got more ground ready. We would clear all such ground in autumn, surface-stir, and manure between the rows in winter. If you contemplate cleaning and doing much of such work by means of a pony and cultivator, then you must have more space between the rows.]

### ROSES.

As "D." of Deal, asks about Belle Normande, I can give him the following information, though I do not possess the Rose:—At the Blandford Floral Show in August, I had a chat with Mr. Keynes on the novelties. He said, his experience was, that Madame Rousset, Madame Moreau, and Belle Normande were the best three, and grand Roses. He promised to write, and tell me the names of the best twelve, but he has not yet done so. As regards Belle Normande I saw a line of them at Mr. Gill's, Dorset Nurseries, Blandford; the blooms were overdue, but they appeared to be large and fine. The growth was moderate. The best full-sized Roses of light character that I have seen lately, are Elizabeth Vigneron and Belle Normande. "D." says, "As far as my memory serves me, we have only some second-rate Roses of Granger's." I have two foreign lists: one attributes Maurice Bernardin—a most magnificent Rose here, a very strong grower, a most abundant and continuous bloomer—to Levêque, and the other assigns it to Granger. Whether Levêque or Granger raised it I cannot say, but I beg to acknowledge the raiser's great merit.

I must now thank "D." for his kind expressions. They have been copied by the *Dorset County Chronicle*, accompanied by very kind expressions, for which I thank the editor. I shall leave Rushton in April. I have removed the *élite* of my Roses, amounting to some hundreds, to my north-east garden at Rawston, which the future rector has kindly permitted me to hold till I can fix on a residence. The garden is nearly full, and the Manetti plants are excellent. I have been obliged to give away my fine array of the choicest summer Roses. My three plants of Schismaker (slate), and Tricolor de Flandre (variegated), and Madame Zoutman (white), are all that I shall retain for want of room. It costs me a groan to give them up; they are so hardy, so handsome, so free-flowering, and so finely scented. Moreover, you may back them for bouquets day after day without injuring the next year's prospects. I have offered them to Mrs. Farquharson, of Langton House. They are far better than when I bought them of Messrs. Cranston and Rivers some ten years ago.—W. F. RADCLIFFE, *Tarrant Rushton*.

### EARLY-BLOOMING CYCLAMEN SEEDLINGS.

SEVERAL interesting papers, on Cyclamens and their culture, having recently appeared in your Journal, and which have elicited some further information from your correspondent, "G. H.," showing that this beautiful tribe of plants can, by careful management, be induced to bloom in one year, I venture to give my own experience on the same subject, should you consider it likely to prove interesting to any of your readers.

This year I have obtained the same results as "G. H.," but without the assistance of artificial heat—an advantage to such as have not the means of forcing at their disposal. I began to cultivate Cyclamens about five years ago, having in the autumn of 1860 purchased a collection. Since then I have raised many hundreds of seedlings of the varieties of *C. persicum*, which are my favourites, though I also cultivate to a more limited extent the other kinds, including Atkinsi, comu, and vernum, and I have invariably succeeded in obtaining abundance of bloom in the second year from sowing the seed, which at the time I commenced, was, I believe, a step in advance of the ordinary mode of culture.

The course I then adopted, and to which I in a measure attribute my success this year, was to sow the seed, if possible, immediately after it was picked—say from the commencement to the end of July; the compost used being a mixture of rich garden loam, leaf mould, and a little sharp sand, and I have generally found that germination takes place in from six to eight weeks from the period of sowing; but if the seed is

allowed to dry up, which it does very soon after being picked, the period it takes to germinate is considerably increased.

When once the plants have shown their first leaves, I am careful that by frequent watering they should be kept in a growing state for about eighteen months—that is to say, till after the second spring, at which period they would naturally rest. The seed-pans, which had from the period of sowing been placed on the back shelf of my greenhouse, are then removed to a situation out of doors, where they only receive a small amount of the summer rains, although I am careful never to allow the soil to become hard and dry, which is the cause, I believe, of so many failures in the cultivation of this plant.

As soon as the bulbs which have been resting for three or four months show signs of returning growth, they are removed from the seed-pans, the old soil being carefully shaken from them, avoiding, as far as possible, breaking any of the numerous roots, and are potted off into 60-sized pots, in which they bloom in the following autumn, frequently as early as November. The compost used is similar to that in which the seeds are sown, with the addition of cowdung and small pieces of charcoal on the top of the drainage.

The only difference in the treatment I have pursued this year has been to supply the young bulbs, raised from seed sown in July, 1864, with additional nourishment, by means of occasional waterings of very dilute guano and water, the result being, as I at first stated, that I have at present on the back shelf of my greenhouse, a pan containing, I suppose, at least fifty bulbs of *persicum album*, almost every one of which shows signs of bloom, one having been expanded a fortnight, this being the 25th of November.—G. P. C., *The Vale, Jersey*.

### KITCHEN GARDENING.

#### OCTOBER AND NOVEMBER.

THE first thing now to be considered is whether enough Cabbages have been planted, and, if not, they should be planted at once, as after this time the ground is rarely in good working condition. Give Cabbages intended to stand the winter in the seed-bed a good thinning and hoeing, and serve the Cauliflower-bed the same, but by all means make sure of plenty under protection of some kind. The Lettuce-bed should also be thinned, planting the thinnings on a part of the south border, say where the *Chrysanthemums* have been plunged, as that will be the only vacant spot in the garden.

The first dry day that we may have (and they have been few and far between lately), the earliest row of Red Celery should receive a final earthing-up, giving the late rows a little earth at the bottom, but not too much yet. The Asparagus-beds may be cleared of the ripe grass, and left just as they are till the first dry morning, when some of the best manure that can be had should be spread about 3 inches thick all over the beds and alleys, which dressing should be left on till spring, when the littery portion may be dug into the alleys, and the rotten part, which will by that time be as dry as dust, should be forked very lightly into the beds as it lies.

If it is intended to force Beans they should be started in November in gentle heat, though I think they are more useful and give more satisfaction when started immediately after Christmas. It is also a good time to provide the winter store of Potatoes, as they can be bought as good and as cheap this month as at any period of the year. I find that the York Regents do well before Christmas, and the Flukes after Christmas, till the early ones come in.

As the leaves will now be falling, it is a good plan as they are swept up to have them shot down with the stable manure, as a good heap of forcing material for the Rhubarb and Sea-kale will be formed without much trouble; the dead leaves, too, should be taken off both the last-mentioned, or at any rate that part which is intended to be forced for Christmas. I generally force them in the old-fashioned style, that of covering with pots and hot material about the middle of November; and in this month I generally wheel all the manure that is on hand into the garden wherever it is possible to lay a barrowful, as the barrows can be loaded back with the refuse of the crops, such as the decaying haulm of Dwarf Kidney Beans and Scarlet Runners, Colewort stumps, &c.

I may here mention that I have picked Beans this year without any protection whatever up to the middle of October. This autumn has been very favourable for the supply of vegetables; here we have had Spinach in capital condition, Turnips



the same, Savoy middling, Coleworts very good, Dwarf Kidney Beans and Vegetable Marrows a longer time than usual, and Brussels Sprouts first-rate, so that there has been as yet no necessity for beginning on the winter stock. I have previously mentioned that I keep my cropping as it were in two sections—for instance, taking at present the two squares of the garden, one is a counterpart of the other as regards the varieties and quantities grown, with this distinction that one-half is now ready for use, and will be cleared in time to prepare it for the spring cropping, while the other half will remain untouched till after Christmas, leaving the haulm of leguminous crops between the rows, and otherwise protecting the more tender sorts till about the middle of February.

As regards salading, the Celery will be in full yield, and the Endive blanched and protected, Lettuce the same, and Mustard and Cress will be grown under protection if required. I may mention that the Red Cabbage should be cut and more planted, if not already done.

I had hoped to have finished my subject in this article, but I find I must again return to it—that is, if your readers are not already tired of it at this dull time of year, and especially from such a dull pen as that of—BURNWOOD, P.D.

### PAULOWNIA IMPERIALIS.

A VERY fine specimen of this is growing in the nursery of Messrs. Bunyard, of Maidstone. It is about the size of a full-grown orchard Apple tree, the stem or bole being about 10 feet high below the branches, and its circumference at 5 feet from the ground is 34 inches. It seems to grow fast, for some branches that had been cut off had sent up shoots quite 6 feet long and 4 inches in circumference at the lower end. Every tip of the older wood contained a flower-spike, the buds swelling and evidently advancing too fast for the season they have yet to endure. I understand that it has once flowered well; but on the other occasion when it was preparing to do so the buds were destroyed or very much injured by the weather. The plant, however, is remarkable for the foliage, and possibly it may thrive in some sheltered spot on the coast. Those who are not acquainted with the plant may form some idea of it when I state that it most resembles the Catalpa, although it is of more robust growth and has larger foliage.—J. R.

### ORIGIN OF THE DALMAHOY POTATO.

In answer to "W. L.," page 382 of THE JOURNAL OF HORTICULTURE, this excellent Potato was raised by the late Mr. Joseph Smail, who was then gardener to the Earl of Morton at Dalmahoy Castle: hence its name.

I was one of his assistants in the gardens there at the time it was raised from seed, and planted the seedling plants when first turned out of the seed-pans. Tubers may be had true to name from Messrs. Lawson & Son, Edinburgh and London.—JAMES REID.

### RAIDS AFTER FERNS.—No. 3. DARTMOOR.

NEVER surely was hunter before so embarrassed by his gains as I was with mine on those Dartmoor hills. When a man shoots a partridge, I suppose he knows pretty well that it is a partridge, and whether it be young or old, well fed or lean, is nearly all the extra knowledge required. If he brings home a "good bag" he is content. I never yet saw a sportsman so keen as to carry game in his bag, in his pocket, and in his hands; yet this was often my pitiable condition. The cares of even grouse-shooters were nothing compared with mine. Let me confess the honest truth. I did not know my birds. I was not utterly ignorant, I did not mistake a barndoor fowl for a "hathefell," or a black cock for a grouse; but whether an extra feather or two in his tail made him a "variety," and if so what? that was my puzzle, and this sort of dialogue went on constantly.

"Hallo! wait a minute, I've found something."

"What is it?"

"A *Blechnum*."

"Yes, but what *Blechnum*?"

"I don't know, come and see."

"What's the use of my coming, I don't profess to know, and you do. Oh, ah, it's a sport."

"Well, if it is, it's a sporting neighbourhood, for there are several plants just alike."

"Oh, it's nonsense, I never saw such a thing."

But nonsense or no, out of the hedge we dragged some half dozen plants of *Blechnum*, with alternate pinnules divided from each other by a leafy margin like a notch, these pinnules suddenly contracting till they were no size at all to speak of. "Is it an anomalum? no, all the fronds are not fertile—variable?" "A fiddlestick," said my companion, going off quite offended, "but, no, it was not that."

Another time it would be, "What's this?" "Oh, a dilatata," dilatata doing duty for every large Fern not *Filix-mas*, or not undeniably *Filix-femina*. "No, it can't be dilatata, for the lower pinnules are the size of the upper; but it is very like it." "Why, I declare it's an *Athyrium*! This is a strange bird, some of the fronds are like a *Filix-femina*, and some very like a *Lastrea*, only the *Lastrea*-looking fronds have little or no fructification. What can it be? It has a purple stem, and the texture of the *Lastrea*-looking fronds is thick and leafy. What is it?" To this minute I do not know, it has thrown up some new fronds, some barren, some fertile, and each preserving its own peculiar characteristic.

Not far from Ashburton, is a beautiful little moorland village called Buckland-in-the-Moor, commanding one of the finest views I have ever seen in Devonshire. It has its church, its parish priest, but no shop, no public-house. With a hunter's fare of a few sandwiches, and a cordial in a flask, I went to Buckland on a raid, determined to follow, or rather to head the river upland. I went to a cottage to borrow a boy to carry my bag. I shall not soon forget that cottage, so remarkable was it for cleanliness, positive comfort, and well-to-do-ishness. The week's scanty stock of clothes (it was Saturday) lay neatly folded on the table. A clean, fat baby was in a cradle, while another toddler was at the door, playing at making dirt pies, with a grubby-faced brother. "Father" was gone four miles off to Ashburton market. Did I not see him with a little girl, "my eldest at home," just as I came in? "Your husband is a small farmer?" said I. "Oh, no, only a farm labourer, and we have eight children, but three are out at service." A farm labourer, whose utmost wages would be 12s. a-week, five children to provide for, and all neatly patched and warmly clad! What could it be? A long experience of the lives of many poor neighbours answered the question. "No shop, and no public-house." So I borrowed the eldest boy, and went to the river, which flowed by the very door of the cottage, with a little, rippling, happy sound, as if content with all it knew of life there. We divided the sandwiches, sitting down on a stone draped with moss, and long pendant branches of *Lysimachia nemorum*, or the "Golden Star." It was a day of perfect beauty; one of those days so difficult for even a poet's pen to describe, because when we look on what is most fair on earth, there ever comes with the beauty, thronging unbidden over the heart, human thoughts of decay and death. We feel as good George Herbert felt, when he wrote—

"Sweet day, so cool, so calm, so bright,  
The bridal of the earth and sky,  
The dew shall weep thy fall to night;  
For thou must die."

It is in the essence of the very perfection of any earthly good, that with the satisfaction it gives a longing for something yet more perfect, and less fleeting. It is the immortal pleading for remembrance, lest in our fluttering joy we should forget its higher claims.

The little lad eating sandwiches, out of which he took the meat and gazed at it as at something out of the common, felt none of this. He knew when he was hungry, and when he was filled, and for the rest he opened his eyes, and wondered, if dull inanity can be called wonder. Presently even he was roused. We were on a lovely moorland slope, sunny, and shelving to the river. "They plants," he jerked out, "are Strawberries, and there are ever so many up long by that reave (stone boundary), and down long here basketsful." I found that I was, indeed, treading on beds of wild Strawberries, which grow in vast quantities on Dartmoor. Then we entered a wood, and my companion was lost in stamping on Chestnuts, and eating the fruit.

We found such *Lastreas*, such *Athyriums*, and such *Blechnums*, as I have never seen before or since; but nothing remarkable beyond the size. After a long search my heart gave a bound, for I saw beneath my feet not one, but many *Athyriums* with fronds—but how shall I describe them? The apex of both frond and pinna had little endings like fishes' tails,



Were they *apureforme*? I think certainly they were, and I shall so call them till I have found another name. I found two, as I believe, distinct varieties of *Filix-femina*, having these singular fish-tail-like terminations. Formerly I should contentedly have set them down as simply multifid varieties, thinking "a Rose by any other name would smell as sweet;" but if Shakespeare had lived now-a-days he would never have dared to have put that speech in the mouth of a Juliet, "what's in a name," indeed? Why, so-called immortality. My fish tails (some of them) have three points, if I am only quick enough I may have the honour of having added to *Athyrium*, *Filix-femina odontomans apureforme*, var. *Ninrodia*.

My Buckland discoveries were not solely confined to *Athyriums*, they extended to *Asplenium trichomanes*, with fronds a foot in length, the lower pinnae lobed and somewhat serrated, one frond being branched like a little tree; but though I brought away the roots, having never before met with such fine specimens, I put down the peculiar formation as owing to situation, because it only occurred in a marked degree here and there.

The moorland *Lastreas* vary as much as the *Athyriums*. I found *Lastrea oreopteris* with serrated pinnules; *L. Filix-mas* with the apex of the fronds and pinnae forked; *L. dilatata* in half a dozen marked varieties; also, if I mistake not, I found in a low wood by the river's side, a dozen or more fine plants of *L. uliginosa*. I detected them at once, and my acquaintance with *uliginosa* has been small, by their finer texture, and the peculiar look of the rachis and spinous pinnae. In the same wood I found a beautiful specimen of *L. Filix-mas crispata*, with the dark bright green pinnae overlapping each other like a well-tiled house. This variety is very pleasing, because it cannot well be mistaken for anything else: the density of the pinnae causes a sort of fan-like projection down the rachis, the effect of which is exceedingly pretty.

Ashburton was our market town, where once a-week old women and children bring in their pennyworths of garden produce, and sitting down demurely before their baskets await the half-finished visitors to the moor. A few joints of meat hang at unsavoury-looking stalls, and that is the market. But the magic hour of this market is three o'clock. The good genius is the omnibus, and the thing itself is fish. People drive in from the distance of many miles to meet the fish, friends are invited beforehand to eat it, and lo and behold sometimes there is none; but the old women and children sit demurely on, with a few Carrots, a Broccoli, an Apple, and an Onion before them, and so "squash pie" has to take the place of fish.

The country round Ashburton and Buckland is most beautifully wooded, and in this respect loses the peculiar characteristics of moor land. One misses the wide soft sweep of Gorse and Heather, and the melting grey of the granite tors. The impression of mystery and eternity that the true moor cannot fail to give is exchanged for the look of home, while the deep stillness breaks into the happy voices of little children playing about cottage doors, and the fresh breeze brings on its wings the murmurs of the neighbouring river.

I think my grandest day on the moor was that which I spent at Grimspound, a fortified aboriginal village, or primitive British town, situated on the north-west slope of Hamildon, and to which a moor boy steered my course by "reaves," and "riding bogs," in a masterly manner, discoursing meanwhile on the pleasures of rabbit coursing in winter time, and "hathell" shooting when "mate" was scarce, interspersed with accounts of dangerous expeditions after "Hurts," when "little sister and me lost our ways in a mist, and wandered hand-in-hand to a far-off village."

Speculation has been very active as to Grimspound, and learned heads have been put together to decide on the merits of the various suppositions. In themselves the remains are exceedingly curious; a large circle of immense stones piled on each other and covering nearly four acres of ground, encloses within its walls a number of the hut circles I have before mentioned. There are paved entrances opposite each other, and a stream of water rising on the spot, is cunningly hidden and built over by the wall, so that a supply of water was always at hand. The wall, or circumvallation, is in no part of any great height; indeed, it is so low, that the first feeling on seeing it is one of disappointment, which after examination gives way to intense interest, and you begin asking yourself, as the learned men do, "What can it have been?" Some answer, "A colossal Temple of the Sun." Others refer it to the seat of judicature for one of the early divisions of that part of Britain. Moor-men say,

Well, they stones be curious, and a biggish pound for cattle

sure enough." But the best-sustained theory seems to be, that Grimspound was built as a general place of protection for the people to assemble in, when threatened by a common danger. Hamildon beacon rises majestically above the ruined stronghold, commanding all the neighbourhood. A fire lighted there would at once be a warning of danger, and a guide to safety. The base of the rampart, in some parts, is said to be 20 feet broad, and the date given for the erection of the village, before Christ.

Most strange was the feeling that came over me, as I sat resting on the ruins of the ancient dwellings of my people. When Rome was building her majestic temples, her Colosseum, her fountains, and her palaces, my people were dwelling in the rude huts before me, the same glorious hill sheltering them, the same wild flowers and Mosses beneath their feet. A few feathers from a blackcock's wings lay on the ground by my side, and gave me visions of savoury messes eaten on the very same spot by my grand parents. As they ate did they quaff, I wonder, the famous drink made in days gone by, from Heather flowers? or had they the Russian receipt for Whortleberry wine? Sir Walter Scott states that in the memory of old moor-fowl-shooters, they were regaled in remote shepherd huts by a "light, lively, and pleasant liquor brewed chiefly from Heath flowers," and we read that in St. Petersburg a drink made from Whortleberries is commonly sold in the streets.

I cannot say that at Grimspound I felt altogether so proud of my ancestors as I could have wished; albeit, they displayed much cunning and ingenuity in their buildings, and, doubtless, they did the best they could.

Beneath the stones of the hut-circles I found the same *Lastrea dilatata* growing that I had found elsewhere, with the coal-black fructification. On the rocks were Lichens and Mosses of many varied kinds; amongst them, and by far the most lovely, were the Coral *Sphaerophoron*, of which I found three distinct kinds, coralloides, fragile, and compressum, each wonderful in its minute loveliness. The whole of Dartmoor abounds in Ferns, Mosses, Lichens, and the rarer shrubs. The *Lycopodium clavatum* and selago grow in abundance on Hamildon. The wild Cherry (*Prunus cerasus*), Raspberry (*Rubus idæus*), and Currant (*Ribes rubrum*), are to be met with; the Burnet Rose (*Rosa spinosissima*), and Downy-leaved Rose (*R. tomentosa*), with a thousand other shrubs and plants, tempting the tourist on from hill to hill, and valley to valley, in endless and varied successions of interest and beauty.—  
FERN-HUNTRESS.

#### TODMORDEN BOTANICAL SOCIETY.—Nov. 6TH.

Among cryptogams, and especially among Filices, were many extraordinary things, a variety of the Hart's-tongue, for instance, with fronds of a creamy white, a thoroughly permanent variety, moreover. Surely no other "sport" of this sportful species may be compared with it. *Scopolopodium vulgare hemionitoides*, also exhibited, has exactly the appearance of the novel *Asplenium palmatum* (*Hemionitis cristatum*! *Scopolopodium vulgare lonchophorum* ("spear-bearing"! how could any mild-dealing botanist ever think of approaching, much less handling, so dangerous a plant!) has fronds 12 to 15 inches long, and only half an inch broad, or less, throughout. It is a most curious sport, and, we were informed, perfectly constant. Among other novel or rare British Filices were *Athyrium F.F. cornigerum* (M) a new Lady Fern of merit, *Asplenium Adiantum-nigrum microdon* (M) true, and *Lastrea dilatata* Howardii or Howardiana (Monkman), a magnificent variety of the Broad Buckler Fern, bearing the same relation to the type that A. F.F. Fieldia does to the ordinary type of Lady Fern, every pinnaule on every pinna being distinctly cross-shaped! Among exotic Ferns were: *Nothochlæna Maranta* (most beautiful when well grown, with bright peacock-coloured fronds, furnished on the under side with richly-coloured scales, but usually grown in too much heat, protection from frost being alone required) a hybrid form of *Lomaria glabra*, one of the finest of the Lomarias, and the new and beautiful *Adiantum Feci* (to be kept out of the stove and in the greenhouse). Mr. W. Hobson, of Philadelphia, U.S.A., a correspondent of the Society, sent examples of *Schizæa pusilla*, gathered in swamps near that city. This is one of the tiniest and rarest of Filices, certainly of North-American Filices; so tiny is it that only the keenest and most practised eyes could detect it, wild. Mr. H. announced also his discovery, after a long and patient search, of plants of *Lygodium palmatum*, beyond all question the most beautiful of North American Ferns. Mr. Hobson will report further at subsequent meetings. One of the Society's New Zealand correspondents sent the following, gathered chiefly in the neighbourhood of Auckland; *Polypodium grammitidis* (Sm.), *Hymenophyllum rarum* (Sm.), *H. crispatum* (Wall.), *Trichomanes humile*, *Nothochlæna distans* (?), and *Phylloglossum Drummondii* (Lycopodiaceæ). Mr. Barnes, of Milnthorpe, sent examples of two new and splendid forms of *Lastrea montana*, the one marvellously caudate, the other singularly narrow and



abbreviated, both very beautiful, lately gathered by him in Mardale. In the discovery of varieties of a Fern that is usually regarded as not at all "sporting," Mr. Barnes has had singular success, having gathered not less than half a dozen distinct forms within almost as many months. A variety of *Adiantum capillus-Veneris* was exhibited, from the Cornish coast, so much and so profoundly incised as hardly to be referable to the type. Mr. J. Hartley announced the discovery by Mr. William Pickles (Newbridge, near Hebden-bridge), in the prolific Hebden valley, of a new habitat for *Osmunda regalis*, the royal *Osmunda* never having been previously found in that neighbourhood. Mr. B. Sykes submitted specimens of seedling *Athyriums*, amongst which was noticeable a multifid "excurrens." Apropos of Fern-sports, the learned and viva-

cious editor of "L'Illustration Horticole," M. Ch. Lemaire, in a late Number of that periodical, referring to the many curious forms of indigenous Ferns exhibited at a recent show of the Royal Horticultural Society, by Messrs. Stansfield and Ivery, remarks, "And there can be no doubt that cultivation has done all this, for of the exotic Ferns that reach us, none, or almost none, show variations so marked!" &c. Cultivation has done but little of this. The major part of the vegetable curiosities over which M. Lemaire is so justly exclamative, were exhibited intact, precisely as they had been found wild. But now that the nature of the spores of cryptogams has been so closely looked into, now that hybridisation has been proved practicable, who shall say what cultivation cannot or will not do?

### HOUSE FOR GROWING THE MANGO AND MANGOSTEEN.

As my papers on the cultivation of the Mango, Mangosteen, and other tropical fruits would hardly be complete without some account of a house in which to grow them, I purpose this week saying a few words on the subject, particularly as a good deal more depends upon the house itself than most persons would suppose.

Abundance of light is the main thing to be considered in erecting a stove for these trees, as unless they have all the light our murky skies will afford, there is no chance of their fruiting, although the plants themselves may grow well and even flower. Some time ago I was asked by a lady to look at three Mango trees which she had, and which had been cultivated strictly in accordance with my directions, without, however, obtaining from them any fruit. On going to see the trees I found they were at the back of an old-fashioned and rather dark lean-to stove, half smothered with Pines, and shaded on one side by Banana trees. The moment I saw them I recommended their being removed into a new light house hard by, which could be kept warmer than the Pine stove, and where there were no other large plants. About twelve or fourteen months afterwards I received from the lady a letter, accompanied with two well-flavoured fruit, thanking me for my advice, and informing me that one of the trees had just borne fruit for the first time, although it had been in her garden for ten years and more. So much for light. But to return to our house.

I should recommend its being span-roofed, and as low as practicable, in order both to economise heat, a very important matter, particularly in winter, and also to keep the trees near the glass, which will prevent their becoming lanky and drawn, and will enable them the better to ripen their wood.

The accompanying engravings represent the house in which for some time I grew and fruited the Mango and Mangosteen, and which, for ordinary purposes, is, I believe, as good as any which could be devised, except that for large trees it would require to

be higher. Fig. 1 is a section of the house, and fig. 2 the ground plan, showing how the trees are arranged.

The house is a span-roof, running north and south. It may be of any required length, but 30 feet is a fair size for a beginning, and will accommodate ten fruiting trees. It is 16 feet

wide, 10 feet high in the centre, and 6 feet at each side; both the ends and sides are glazed, and rest all round on 2 feet of nine-inch brickwork. Down the middle is the bark-bed, 22 feet long, by 8 feet wide. It is 4 feet deep, 1 foot being below the ground level, and the walls are either of brick or thick slate. The house is heated by hot water in four-inch pipes, P P, which go all round excepting where the door is. There are two distinct sets, so that either or

both can be used at pleasure, the boiler and furnace, r, being outside at the north-east corner. There are sliding slate ventilators, v v, just below the hot-water pipes, three on either side, each being 2 feet long by 8 inches wide. There are also two other ventilators close to the ridge of the roof, one being in the north side, and the other in the south. As every ray of light is of consequence, the panes of glass both in the roof and sides are as large as possible, and the laps in the roof are very close. The top sashes I should advise being fixed, as sufficient air can always be obtained by means of the ventilators, and there is a great danger of chilling the trees if the roof-lights move.

I prefer tan, when it can easily be procured, for giving bottom heat, and for plunging the pots or tubs in, to heating the middle bed by hot water. I always fancied (it may have been only fancy, however), that the trees seemed to thrive better in it than in anything else. Still, I have no doubt but that hot water in a tank under the bed would do as well, or nearly so.

In fig. 2 we see the arrangement of the bark-bed, showing how the trees are planted. The four trees, 1, 1, 1, 1, down the centre of the bed are the Mangos trained as standards, there should be at the least 5 clear feet between each. The other

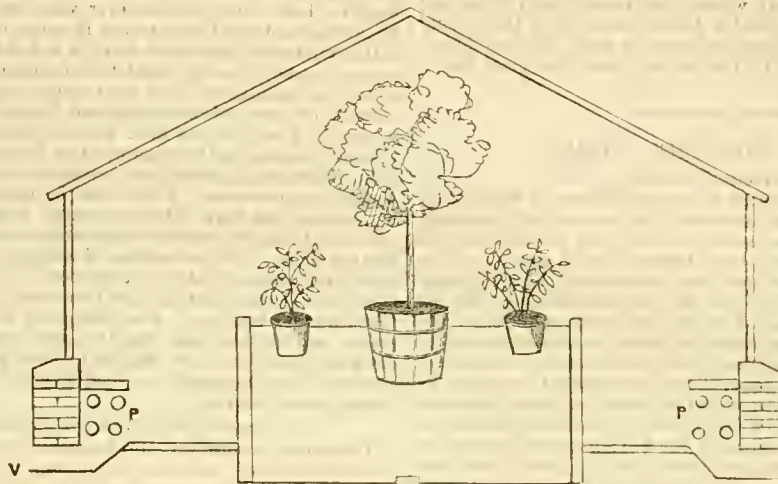


Fig. 1.

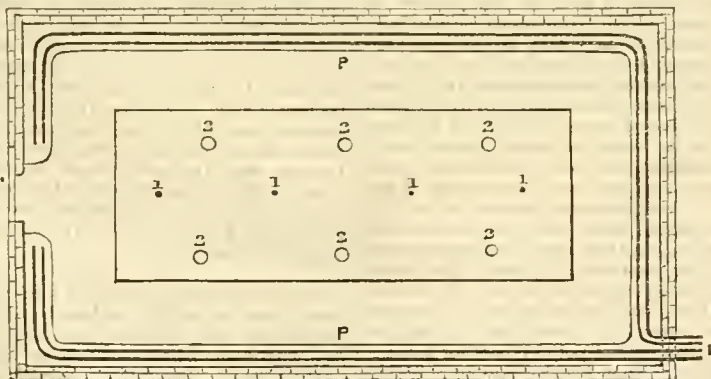


Fig. 2.

The accompanying engravings represent the house in which for some time I grew and fruited the Mango and Mangosteen, and which, for ordinary purposes, is, I believe, as good as any which could be devised, except that for large trees it would require to



six, marked 2, are the Mangostens, three on each side. The trees are all in pots or tubs, and planted in quinconx order, as no other form insures such an equal amount of light and air to each. Such a bed will hold ten fruiting trees, and more must not be put in, or there will be too much shade.

Anona (Sweet-Sop) bushes, however, may be grown in small pots and plunged in the tan between the plants, or placed on the shelves round the house. No creeper or climber of any description should be permitted, as the shade would be most prejudicial, particularly when the fruit was ripening. It is true, I have seen *Passiflora edulis* grown in such a place, trained up the north side, and as the temperature is just such as suits this Passion-Flower, it grew most luxuriantly, and fruited every year; still, I should not like to recommend this as an example to be followed, as all shade is injurious to the trees, and it should always be borne in mind that no sunlight, however powerful, will injure the Mango or Mangosteen.

The Mango, Mangosteen, and Sweet-Sop, do very well together in one house, and the Banana, too, thrives there amazingly, indeed, it soon become unmanageable, owing to its large and shading foliage. The Durian, on the contrary, is better in a house by itself, where it can have plenty of heat and moisture while growing, and a lower temperature than would suit the Mango or Mangosteen, when at rest. It should also, as I mentioned before, be trained up under the glass like a Vine.—J. H.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

We have lately experienced such a continuance of wet weather that it has been almost impossible to proceed with out-door work every day; but we trust that there are few instances in which the labourers have been thrown out of employ. It is true there are some gardeners who can scarcely find sufficient for garden labourers to do for the space of one day; but we never yet knew one skilled in his profession who could not employ his men within-doors for weeks in various ways to forward work at a future time. Numerous articles which are now purchased at a distance from home might be made by them. *Asparagus*, if the soil in the frames in which the roots are planted should become dry, it will be necessary to water it with water of the temperature of the bed; but this is not often required if the bed heats moderately and the roots were properly watered when planted. There should be at least 5 or 6 inches of soil of a loose open texture, such as leaf mould or old tan, put above the crown of the roots after they begin to shoot. Admit air freely to the productive beds. *Beans*, where they have been planted in rows and have made their appearance, draw the earth in ridges on each side of them, so as to afford some little protection from cold cutting winds. *Peas* in rows should be similarly managed. *Cauliflowers*, watch narrowly for slugs amongst the young plants, and keep them free from dead leaves. If any are planted in pots for the purpose of protecting them during severe weather they must be carefully attended to with water, otherwise in spring it will be found that the time and trouble expended on them have been wasted. *Cucumbers*, those in pots or tubs in forcing-houses will require a little fresh soil over the roots occasionally; this will keep them in vigorous health. *Deaf Kidney Beans*, as they are very subject to the attacks of insects in forcing-houses, every known means should be used to keep these pests under. The plants should be frequently sprinkled with water, and if red spider become numerous a brisk syringing should be applied. *Herbs*, any that may be wanted in a green state should be taken up with balls of earth about their roots, and immediately potted and placed in a forcing-house. *Lettuce*, the young plants in frames should have all the air that can be given them in mild weather; keep them, and also those in the borders, free from dead leaves and litter of all sorts that is likely to harbour slugs. *Rhubarb*, take up and pot old roots for forcing, if a succession is required; or they may be laid in a Mushroom-house that is at work and slightly covered with soil. As soon as the weather will permit wheel the remainder of the rotten dung out of the framing-ground, so that all the pits and frames may be ready when wanted for use. Prepare stable-dung for forcing; mix leaves with it.

### FRUIT GARDEN.

Proceed with the planting of fruit trees in open weather, and if the soil is old let each tree have a good portion of the new soil about its roots. Pruning and nailing all sorts of fruit

trees, except Peaches and Apricots, must now be vigorously prosecuted. Leave nothing to the spring which can be done now, every day gained now will give greater liberty for extended operations in spring. Trees infested with scale should be loosened from the wall entirely, the bark well scraped, and painted with a mixture of a soft soap, cowdung, and lime, taking care to well work the composition into the crevices of the bark. Prune Gooseberry and Currant trees on frosty mornings, or when the ground is in a dry state. After pruning give the ground between them a good dressing of lime, which is useful as a preventive of their great enemy the caterpillar. Where the Raspberry grub is troublesome give a good dressing of gas lime before digging the ground, taking care to apply it regularly about the base of the canes. The ground amongst fruit bushes should be dug very lightly, especially in the case of Raspberries, which have their roots near the surface, and it is better in all cases to dispense with digging where it cannot be done without injuring the strong roots.

### FLOWER GARDEN.

At this season of the year a little labour will secure a valuable supply of material for enriching the flower-beds and borders. Leaves are generally everywhere at hand; they should be carefully collected and stacked in some out-of-the-way place, with a mixture of road sand, or light soil, rotten sticks, and decaying vegetable matter, and left to decompose, and in a season or two the result will be a most valuable compost, especially suitable for many of the shrubs and plants which decorate our gardens. Earth worms have been exceedingly active during this wet weather in throwing up their little heaps on the lawn, giving it, when neglected for a few days, a most untidy and disagreeable appearance. A stop may be put to their operations by watering the lawn with lime water, in a clear state, which will soon bring the worms to the surface, and at the same time destroy them. Take advantage of wet days to pack up Dahlia roots in dry corners of the store-room. Clean up flower and other seeds from the stalks, tie them neatly into packets, correctly naming each sort; also, make and write labels, prepare stakes, and tie them into bundles, and stow them away in a dry place until they are required; form protective frames of straw or other materials, to shelter tender plants and shrubs during severe weather.

### GREENHOUSE AND CONSERVATORY.

The winter flowers will now be making a splendid display in the conservatory; at least, when they have received special attention during the summer, with this object in view. The *Euphorbia jacquiniæ-flora* is one of the foremost of these beauties when properly cultivated. Unless, however, a healthy root-action is maintained, the leaves are apt to become yellow whilst the plant is in blossom, and this will at once spoil the effect. It requires a very moderate allowance of water at this season. *Poinsettia pulcherrima* is a fine conservatory plant, and indispensable at this time of year. Well-grown plants of *Gesnera bulbosa* and *lateritia*, are equally useful. These should be slightly pot-bound in order to blossom well early. *Gesnera zebrina* is a most beautiful winter flower, and equally desirable on account of the elegant markings of the leaf. *Plumbago rosea* and *capensis* are still amongst our best plants at this period. Some of the genus *Cytisus* are very showy and fragrant. Remove *Chrysanthemums* as their flowers fade. The earliest-started *Camellias* and *Epæries* will be advancing into bloom, as well as the useful *Erica byemalis* and *Wilmoreaana*, *Oranges* and *Daphnes* should be introduced as they show bloom. *Neapolitan Violets*, *Mignonette*, and *Cyclamen persicum*, will assist, with the most forward Roman *Narcissuses*, in making the house agreeable till the more showy forced plants come into flower.

### STOVE.

Many things will be sinking into repose here, and from such water must be entirely withheld. Of these may be named the *Erythrina*, the *Clerodendrons*, the *Achimenes*, the *Gloxinias*, &c., with various bulbs. These should have a shelf or division of the house to themselves forthwith, and it should be borne in mind that the *Gloxinia* family and the *Clerodendrons* are very impatient of low temperature, even when at rest we should not deem them safe below 50°.

### PITS AND FRAMES.

The stock of *Carnations* and *Piotees* ought now to be fairly established. The surface soil should be stirred, and a constant circulation of air kept up amongst the plants in all weathers, except severe frost. To accomplish this the frames ought to have sliding doors at the back and front, by which means a



current of air can always be obtained. Auriculas and Polyanthus in frames require very little water, with the simple attention of removing decayed leaves.—W. KEANE.

### DOINGS OF THE LAST WEEK.

THE continuous wet, dripping, foggy weather has greatly hindered all out-door work in the garden. Where lawns would not be disfigured, planting all kinds of forest and ornamental trees and shrubs might be proceeded with to great advantage whenever it is fair enough above-head; but wheeling and weeding lawns, or even sweeping them in such weather, would almost make as much work as that which was done, and much of the clearing-up of leaves, &c., in the kitchen garden has been left until the weather be a little drier. Much of the indoor work of previous weeks has therefore been continued, and we need not recapitulate it.

#### KITCHEN GARDEN.

*Mild Hotbeds, and Fermenting Materials.*—Took occasion, when at all dry, to turn over, several beds covered with frames, and which had been used for Cucumbers and Melons. and then for bedding-stuff, taking out what earth was left, raising the beds at back, placing a piece of board beneath each corner, and then a block, or some three or four bricks above that, thus giving the frames a slope of from 65° to 70° or less, instead of 80° or 85°, so as to throw off the water better. Some frames from standing so long had nearly levelled themselves, and the weight of the old sashes, from which the paint had long gone, was considerable. With more of a slope they would not have had the chance of retaining the water about them. Then from the beds that were covered with the frames thus elevated at the back, we took away a little of the most rotten dung and leaves at the surface, laid a little aside to go on the surface again, and having turned over the bed to let the air in, so as to cause what was not thoroughly wasted to ferment, we filled up with tree leaves, that had been placed in a heap near at hand to prevent wheeling, the depth of these being from 15 to 18 inches at the back. Over the leaves a little of the more wasted material was placed, and then a little of the dry burned soil from the burning and charring heap, and then the beds were used for young Geraniums, &c., not yet fully rooted, and Cinerarias that were wanted to come on, keeping them cool by plenty of air, as the extra heat from the leaves was mild indeed, but useful for many things; and other beds were filled with Strawberry pots, just to set them going gradually, plunging them in the soil, &c., an inch or two to keep them level. To secure such frames from roasts, the sides were banked up with the stems of Ageratums, Phloxes, Verbenas, Variegated Alyssum, &c., brought from the pleasure grounds. Even such a little matter as the setting and fresh arranging of these frames required a little consideration. We had no more hot and fermenting leaves than would have been sufficient for one good bed, and that would have been too hot for such purposes as we required. With that quantity we have made eight or nine two-light boxes very serviceable for what we want for some six or eight weeks to come, the little mild heat below keeping the things safer in any emergency, and permitting of more air by tilting the glass in damp weather. Then the placing of the new leaves close to the surface is also of importance, as when these beds must be renewed ultimately for hotbeds, the new material is easily separated from the old, to be used again, whilst the well-rotted fermenting material comes in for other purposes.

As our Cauliflower plants are not quite so forward as usual, we potted a lot, and pricked-out others into boxes, placed them in one of these beds, and will continue them there for a month or six weeks to encourage them. Those saved over the worst of the winter in pots generally do so well, that this season we have placed some four plants round a six-inch pot; when established we will shift them into nine-inch pots, and when again established in these will turn them out of doors in a lump in well-aired rich soil, either with or without a hand-light over them. Some half a score of our early Cauliflowers buttoned last year, but there will be little chance of their doing so this season. We sowed a fortnight later than usual. The little extra care will make them early enough. If they had been a little earlier no care would have been necessary, except keeping them from slugs and severe frosts. Large plants at this season are apt to button—that is, present you with a flower the size of a button in spring, and every one that does so is so much time and labour wasted, and this has led us to sow later and later every year. The end of September, in a cool airy place, will gene-

rally be late enough. The plants become too strong with us when the seed is sown in August or the beginning of September.

Such beds might have done on an emergency for Asparagus, Sea-kale, Rhubarb, Radishes, early Carrots, &c., but the height of the old beds was rather against them, and there would not have been the continuous mild bottom heat which is required for such of the above as we could not well put in the Mushroom-house. To keep us going, therefore, we contrived to make a small space of fresh beds for some of the above by saving a few of the leaves referred to, turning a couple or so of these old beds to their bottom, placing all the rotten and thoroughly decayed materials on one side, to be wheeled away in the first favourable weather, and putting all that would yield heat from farther decomposition also on one side, and then mixed part of that with a heap of litter and refuse from the pleasure ground beginning to heat nicely, putting a covering of 3 or 4 inches of the half-decayed material over the surface. A nice mixing of such materials will furnish a genial mild heat for a long time, and then the material by the time the longest has heated itself dry will be used, with some addition, for hotbeds to carry us through the summer.

Circumstances have compelled us to make the most of our fermenting-heap, and thus everything not very succulent, be it clearings from the flower-beds or otherwise, is mixed with the fermenting-heap to give out the heat stored up in it before it decays; and the same circumstances have long compelled us to give up sweetening fermenting-heaps until they become quite sweet, and almost as dark and short as if a good spade could cut them. We find no fault with the system, it answers very well where material and labour are abundant; but we want the heat that is thus lost in the processes of preparation, and we want bulk rather than such fine quality, and therefore we resort to a careful mixture of rather fresh materials, and secure sweetness by a layer of old half-decayed substances at the surface, which keeps down all deleterious steams and gases. All the good dung we can procure in winter and spring would scarcely suffice for Mushrooms.

A good many years ago, though only having the dung of two or three, never more than four, horses, we had almost as much fermenting material for beds, and of the best kind, as we could wish, and that is saying a good deal, and the garden and pleasure grounds reaped the benefit. A good part of the park had not been mown, nor had it been grazed heavily, and, therefore, it presented a very rough appearance, with its dried bents and tussocks of grass. The notion was entertained that these dry, withered tussocks, although they might shelter four-footed game, would injure the grass of the following year, and render it less fit for hay. We gladly took the opportunity of offering to clean them all off, and a nice job it was in the dark, wintry mornings, when it was not frosty, to turn out so many wielders of scythes to chop over these tussocks, not too low, and in regular swathes. We soon collected loads of this beautiful material, which, mixed with a few tree leaves, became perfectly sweet, and when built in a bed with a layer of dry litter, or of small tree branches every 9 or 10 inches, gave for a long time a gentle, continuous heat. We recollect with the help of such tussocks almost alone, we cut fine Melons in April, under a common frame, as early as ever we had them with hot water. After some seasons, however, it began to be perceived that the park was none the better for what we had taken from it, and therefore in this direction we were arrested in our willingness to oblige. No better material for a nice, sweet hotbed, however, can be found.

Almost the only other material not generally used, was moss, and that, too, is excellent, but not quite equal to the tussocks of withered grass. Sometimes good lots of this can be procured from the raking and harrowing of grass lands that rest on a clay bottom. We offered to clear a large bank with rakes, where in winter the moss grew so strong as completely to hide all appearance of herbage. We soon collected a number of cart-loads, and useful it was for many purposes, besides becoming a part of the heating fermenting-heap. Our own opinion is, that the grass in the following season was much improved, even from this clearing away of the moss, but those more and chiefly interested considered that the laying bare of the roots of the grass tended to hurt, and even to kill them. We believe that if a top-dressing had been given to the cleared part both the grass land and the garden would have been mutually benefited. We could not quite go that length about a continuance of clearing off the tussocky grass. We fear there was a little of "beggars my neighbour" in the question; at least it would be so if the cutting went too low, or was repeated frequently



It certainly made a great difference in the appearance of the park, and many a gentleman even on that account would consent to cutting, although there might be a trifle of ultimate loss. A very little soot mixture or other artificial manure would more than make up for the loss.

**Mushroom-beds.**—We have been requested to give an answer here to "Anxious" about the propriety and possibility of producing good Mushrooms without dung, and merely by using a fermenting heap of tree leaves; as he can obtain plenty of leaves and scarcely any of the latter—none at all, indeed, except a few bushels of such droppings as can be picked up by an old man on the roads and highways, but not enough even of them to make anything like a shallow Mushroom-bed, or create the necessary amount of heat. Now as to the impossible, that word must be pretty well discarded from the gardener's vocabulary. We have had some fair Mushrooms that were produced from beds of tree leaves, but by using much more and larger pieces of spawn; but the results were not favourable enough for us to recommend the plan. We have been more successful when a good lot of the withered grass alluded to above was mixed with the tree leaves, the former yielding more nitrogenous material, whilst the tree leaves chiefly consisted of carbonaceous matter. There was another difficulty: unless the leaves had previously been subjected to a high, almost burning temperature, there was a likelihood of numbers of Funguses being produced besides the true Mushroom. On the whole, then, though discarding the impossible, we do not recommend Mushroom-beds to be made solely of tree leaves, or of leaves and long dried grass, &c., combined; but leaves may form the great bulk of the bed, with a thin coating of droppings, which our correspondent can obtain, and such beds will be lasting and productive. We have often had fine beds thus made: Collect the tree leaves to be used into a heap—Oak leaves are the best, Beech and Elm next best. If dry, water a little, so that the leaves may heat rather violently. In eight days turn the heap, placing the top at the bottom, and the centre at the outsides, and the outsides in the centre; tread or beat rather firm, and then cover with about 6 inches of fresh leaves. By another eight days, if the weather is mild, the heap will be very warm, which is necessary to destroy all sorts of spawn and cause slugs, &c., either to die or to take themselves off. Then remove the outside leaves, and with your hot heap begin to make your bed from 18 to 36 inches deep, though the first will keep the heat a long time in a close place. Beat and tread the layers as you go, and thoroughly at the last, and then put in trial sticks 9 inches and 3 inches deep. As soon as the point of the upper stick, the one 3 inches or so deep, is no warmer than new milk, and the stick placed deeper shows the heat is on the decline, put on from 2 to 3 inches of your road-collected droppings. If a lot of drift is mixed with the droppings all the better; beat this also firm, and watch for a few days, say two or three, and if the heat does not rise again, but keeps pretty equable, then insert the spawn in pieces about the size of a walnut into these droppings, covering the pieces merely a quarter of an inch or so. Beat, and watch the trial sticks; and in a few days, if the heat continues regular, and is rather inclined to sink than rise, then place from half an inch to an inch more droppings all over the bed, beat again, and very shortly, if the heat continues regular, which it is almost sure to do, earth, beat firm, and treat in the usual way. The spawn placed so shallow can scarcely be injured if there be a slight increase of heat; but to guard against that increase is the reason why we advise doing the work by degrees. Two or three inches of horse-droppings will thus be sufficient for a rich plentiful bed. Most likely when the bed is done with you will find large strings of the spawn running freely among the leaves; but, nevertheless, the casing of more nitrogenous animal matter will be a great advantage.

Give all the air possible to salads, Cauliflower-pit for use, &c.

#### FRUIT GARDEN.

Took all Strawberry-pots under protection of some kind, so that they might be sheltered from heavy rains and keen frosts. Those who cannot do so should plunge the pots in the ground, or in ashes, and protect with straw hurdles, &c. A good many forget that a plant in a pot unprotected is in a far worse condition as respects casualties and changes, than if it were planted out in the ground. Placed a number of Keens' Seedling, &c., in the beds alluded to, where they will just have a little heat, previously taking away the faded and older leaves, scraping off a little soil from the surface, and adding a rich compost instead. At this season these plants, though within a

few inches of the glass, must have only the mildest heat. A fortnight ago we had some very fair Black Prince Strawberries, but the few gathered for eight days have been less dark in colour, and not so good, we presume, in flavour. Air in any quantity will not make amends for the absence of the sun's rays.

From tree pots in the orchard-house picked away a good bit of the surface soil, and supplied with fresh compost, consisting of fresh fibry loam and cowdung. These pots had previously been lifted to break any roots that had gone beyond the pots. This renders root-pruning an easy affair. The great objection to pots is the watering they require in summer. Other matters much the same as in previous weeks.

#### ORNAMENTAL DEPARTMENT.

Everything in pits and frames wanted looking after to prevent damping, and to secure a circulation of air. In some foggy days it was better to keep shut to keep the fog out. In such times the want of a hot-water pipe is felt, for that would cause the air to move, and also keep out fog, by converting the heavy thick fog into invisible vapour. Had to look sharp after mice among potted bulbs, and after rats among Violets in a bed under glass. One rat was caught in a trap after cutting off in mischief lots of flower-stalks, and tearing other plants out by the roots, and making part of the place like a ploughed field. Auriculas and Polyanthus under glass must be guarded from drip in such weather. Stocks, double Wallflowers, Pinks, and Carnations cannot be kept too dry and hardy. Young Mignonette should have all the air and light possible. Examined the roots of Dahlias and covered up with dry earth in a shed for the winter. Brought as many bedding plants into vineries, &c., as possible, where, in severe weather, for a couple of months they may have the help of fire heat when necessary. Had the rest fresh picked and fresh arranged in frames previously whitewashed, &c., inside, so as to be warmer and drier, and receive more light as already hinted at. Potted Humeas, Cinerarias, and many other plants. Gave as much light and air as possible to hardwooded plants. Put a few hardy things in heat for forcing, also Lily of the Valley and softwooded plants. Gave a slight heat to the forward Cinerarias, to bring them into bloom. Gave all the light and room possible to Pelargoniums, and watered all things with care, guarding alike against the extremes of moisture and of dryness. In the case of pits and frames in continued dull weather it is very handy to have two sets of sashes, taking off those loaded with moisture and putting on dry ones. In severe weather double sashes are also very useful, and the agreeable temperature thus secured prevents condensation of the moisture inside of the glass. This is a great annoyance in flat houses, as well as in pits and frames. There are many modes of preventing it, but all costing money to carry them out. To guard against damp, as little water should be spilt anywhere as possible. As soon as we can we will have Stanhopeas fresh-packed and other hanging plants duly looked at. A fire in plant-houses now, with air on, both during the day, does much to keep them sweet and comfortable for the inmates.—R. F.

#### TRADE CATALOGUES RECEIVED.

Ambroise Verschaffelt, Rue du Chaume, 50, Ghent, Belgium.  
—*Prix Courant* (77) pour l'automne, 1865, et le printemps, 1866.  
*Plantes nouvelles, recommandées, &c.*

William Chater, Saffron Walden Nursery.—*Catalogue of Superb Double Hollyhocks, Roses, &c.*

#### COVENT GARDEN MARKET.—DECEMBER 2.

So little alteration has taken place here, that our last week's quotations indicate pretty correctly the condition of the market.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples.....	½	sieve	1	0 to 2	0	Melons.....	each	3	0 to 5	0
Apricots.....	doz.	0	0	0	0	Mulberries....	punnet	0	0	0
Cherries.....	lb.	0	0	0	0	Nectarines.....	doz.	0	0	0
Chestnuts.....	bush.	8	0	15	0	Oranges.....	100	4	0	10
Currents, Red ½	sieve	0	0	0	0	Peaches.....	doz.	0	0	0
Black.....	do.	0	0	0	0	Pears (kitchen)...	doz.	2	6	4
Figs.....	doz.	0	0	0	0	dessert.....	doz.	1	6	4
Filberts.....	lb.	0	3	1	0	Pine Apples.....	lb.	4	0	6
Cobs.....	100 lbs.	0	0	140	0	Plums.....	½ sieve	0	0	0
Gooseberries..	½ sieve	8	0	0	0	Quinces.....	½ sieve	3	0	4
Grapes, Hambro...	lb.	4	0	6	0	Raspberries.....	lb.	0	0	0
Muscats.....	lb.	5	0	8	0	Strawberries.....	lb.	0	0	0
Lemons.....	160	6	0	10	0	Walnuts.....	bush	14	0	20



## VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....each	0	4	0	6	Leeks.....bunch	0	3	0	0
Asparagus.....bundle	10	0	0	0	Lettuce.....per score	1	0	2	0
Beans Broad.....bushel	0	0	0	0	Mushrooms.....pottle	1	6	2	6
Kidney.....½ sieve	0	0	0	0	Must. & Cress.....punnet	0	2	0	0
Beet, Red.....doz.	2	0	3	0	Onions.....per bushel	3	0	5	0
Broccoli.....bundle	1	0	2	0	pickling.....quart	0	0	6	6
Brus. Sprouts.....½ sieve	2	0	3	0	Parsley.....½ sieve	1	0	1	6
Cabbage.....doz.	0	9	1	6	Parsnips.....doz.	1	0	2	0
Capsicums.....100	1	0	2	0	Peas.....quart	0	0	0	0
Carrots.....bunch	0	4	0	8	Potatoes.....bushel	2	6	4	0
Canflower.....doz.	3	0	6	0	Kidney.....do.	3	0	4	0
Celery.....bundle	1	0	2	0	Radishes doz. bunches	0	6	1	0
Cucumbers.....each	0	9	1	6	Rhubarb.....bundle	0	0	1	0
pickling.....doz.	0	0	0	0	Savoy.....doz.	0	9	1	6
Endive.....score	1	0	2	0	Sea-kale.....basket	2	0	3	0
Fennel.....bunch	0	3	0	0	Splach.....bushel	2	0	3	0
Garlic and Shallots, lb.	0	8	0	0	Tomatoes.....½ sieve	0	0	0	0
Herbs.....bunch	0	3	0	0	Turnips.....bunch	0	4	0	0
Horseradish.....hundo	2	6	4	0	Vegetable Marrows dz.	0	0	0	6

## TO CORRESPONDENTS.

\*.\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

GARDEN PLANS (F. M.).—There is no special work on the subject "Flower Gardening for the Many" contains some plans. It may be had free by post from this office for five postage stamps.

FELLMOGERS' WASTE (Subscriber, near Dublin).—Obtain it now, and mix with the loam. Do not mix it with the farmyard manure. It will do very well for the Strawberry-bed, but we never heard before of putting manure at the bottom of 2½-foot trenches for Strawberries. Put both sand from the rabbit hutches and crushed bones on your adhesive loam.

PEARS (F. W.).—Only first-rate varieties and specimens are remunerative when sent to London. Inquire of Messrs. Webber & Co., Covent Garden Market.

VINES IN A GLAZED PASSAGE (Amateur).—The Vines would do well if you were to make a border, as you propose, 15 inches wide and 3 feet deep; place 6 inches of drainage at the bottom, and have openings in the lowest course of bricks to allow of the surplus water escaping. Place a layer of sods, grass side downwards, over the drainage, and fill in with turfy light loam, and if turves, cut 3 inches thick, and chopped with a spade pretty fine, all the better; and instead of Vines we would plant Oranges, as we presume frost does not penetrate into the passage. They would look well at all seasons. The Vines in such a narrow border could not be expected to do more than cover the wall, and they would be leafless in winter. If you were to make the trough or narrow border, secure its drainage as above, and fill it with a compost of one-third turfy loam, and two-thirds turfy sandy peat, you might plant Camellias, which would have a good effect at all seasons, and in winter be grand. The very handsome *Ceanothus dentatus*, floribundus, and rigidus, would also be exceedingly well. If all you wish for is to cover the wall, then *Cobaea scandens* would do so sooner than anything. *Hedera algeriensis* would also succeed well in such a position, and form a carpet of green all the year round. The same soils for Vines will answer for the *Cobaea* and the Ivy.

CORDYLIN IN DIVISA CULTURE (A Constant Reader, Colchester).—It does well in a war greenhouse; though it will succeed well in a cool temperature in winter, there is by far too much air given in summer for the plant to make good growth. To do this, it requires to be encouraged in spring and summer by a moist growing heat, as that of a vinery, and when the growth has been made a greenhouse temperature is suitable. A compost of turfy peat two-thirds, and one-third turfy loam, with a free admixture of sand suits it well. Free drainage, plenty of pot room, copious waterings when growing, with a moist atmosphere, and a sprinkling from the syringe morning and evening to keep down red spider, to which it is rather liable, are what it needs, affording a temperature of from 50° to 75° from March to October, and 45° for the other six months of the year, during which period the soil is to be kept moist, but not wet.

DAHLIAS FOR EXHIBITION (J. A.).—The following are first-rate, and nearly all of them are very constant:—Leah, deep golden yellow; Ne Plus Ultra, bronzy rose; Charlotte Doring, white ground, edged and tipped with rosy crimson; Lord Derby, rosy crimson; Andrew Dodds, dark maroon; Bob Ridley, red; Miss Henshaw, white; Anna Keynes, white, tipped with blue rose; Willie Austin, buff; Criterion, delicate rose; Lilac Queen, lilac; and Beauty of Hilperton, purple.

RHEUMATISM.—A Lady, a constant reader of THE JOURNAL OF HORTICULTURE, sends the following excellent cure for rheumatism in answer to a notice which appeared a week or two ago:—Five drops of capjeut oil on a lump of sugar, dissolved in a tumbler of hot water, taken at bedtime and once besides in the day, and persevered in for a few days, will often cure rheumatism, if the complaint is real rheumatism.

"LIVE AND LEARN."—We have some plans for you from "G. H.," and will send them if you forward to us your direction.

FRUIT TREES FOR WALLS OF A NEW GARDEN (K. L.).—South-east aspect. This will be suitable for Apricots and the better kinds of Plums, tea trees at 21 feet apart. Apricots—one Royal, one Kaisha, one Hemskerk, and two Moorpark. Plums—Green Gage, Early Frolic, Jefferson, Guthrie's Late Green, and Coe's Golden Drop, one of each. To make the most of this wall (12 feet high) standards should be planted between the dwarfs, to cover the upper part of the wall until the dwarfs grow up and require the space occupied by the standards. They may consist of Victoria, Pond's Seedling, Kirke's, Purple Gage, and Prince of Wales Plums, one of each, or any other good sorts that can be procured. Of Apricots, as standards, four will be required—viz., one Shipley's, one Kaisha, and two Moorpark. The other side of the wall will, of course, have a north-west aspect, and though of stone it would, we should think, answer for Pears on the Pear stock. Any difficulty in training the trees may be surmounted by having one-eighth galvanised wire fixed horizontally at 9 inches apart, the wires being run through eyes in short, flat, iron pegs or hooks, 3 inches long, driven into the wall in the joints between the stones. The wire should be strained quite tight by fastening one end to an iron rod pierced to admit it, and drawing the wires tight, and fastening them to another iron rod at the other end. This is for trees to be trained horizontally; but if they are to be trained fan-fashion the wires should not be more than 4½ inches apart. This done, the following Pears may be planted 21 feet apart:—Doyenne d'Été, Williams' Bon Chretien, Beurré Superfin, Louise Bonne of Jersey, Marie Louise, Thompson's, Forelle, Knight's Monarch, Alexandre Lambré, and Beurré de Rance. South-west aspect: Peaches—Early York, Royal George, Grosse Mignonne, and Barrington, one of each; also one of Elrugo and Violette Hative Nectarines, with standards between on six feet stems, consisting of Early York, Noblesse, Early Grosse Mignonne, and Bellegarde Peaches, one of each, and one Hardwick Seedling Nectarine. We are by no means certain of Peaches doing well in your locality against a wall with a south-west aspect, but we should certainly try them for three or four years, when they would be fine trees; and if they did not bear we would cover the wall with glass, having a house 7 feet wide, and in it a row of Peaches in pots in addition to those against the wall. The other side of the wall, having a north-east aspect, would answer well for Cherries on the Cherry stock, two Tradescant's Heart, two Belle de Charente, and two Morello, all at 20 feet apart. North-east aspect: The wall being only 7 feet in height, is only suitable for Currants, red, white, and black, Gooseberries, and the Cherries previously named, which would do well on the Mahaleb at 10 feet apart, to them you may add Kentish and Belle Magnifique. The Cherries may be on the Cherry stock, and planted 25 feet apart. The other side of the wall will have a south-west aspect, and will do admirably for Pears on the Quince stock, planted 12 feet apart, say one of each of the following:—Brown Beurré, Beurré d'Arenberg, Beurré Diel, Bergamotte d'Esperen, Gansel's Late Bergamotte, Winter Nelis, Glou Morcean, Passe Colmar, Josephine de Malines, and Ne Plus Meuris. North-west aspect:—On this we would plant Apples on the Paradise stock at 15 feet apart, as such trees will bear better on your seven-foot wall. They may consist of Manks Codlin, Keswick Codlin, Gravenstein, Lord Suffield, Winter Pearmain, Alfriston, and Lucombe's Seedling; these are kitchen Apples. For dessert we would have Cellini, Court of Wick, King of the Pippins, Lamb Abbey Pearmain, Golden Harvey, and Seartel Nonpareil. The other side of this wall will have a south-east aspect, and be useful for Plums, which may be St. Catherine, Blue Imperatrice, Woolston Black Gage, Belle de Septembre, Early Favourite, July Green Gage, Red and White Magnum Bonum, Kirke's, and Jefferson, at 21 feet apart.

WINTERING COLEUS VERSCHAFFELTI (P. P.).—It will live in a temperature of 50°, and even in one as low as 45° if the soil and atmosphere be dry. A well-ventilated part of the house is best, but not where there are currents of cold air. No more water should be given than is sufficient to keep the plant alive and prevent the wood shrivelling.

PRIMULAS (Idem).—We have not heard before of these with red flower-stalks and white flowers, and, though we grow Primulas largely, we have never had them with white flowers on red stalks. Those having white flowers have invariably green leaves and petioles, and green flower-stalks.

PEAS, AND TIMES OF SOWING (Idem).—Sangster's No. 1 and First Crop are two good early Peas. A sowing should be made in the beginning of December, if not done in the first fortnight of November, and another of Sangster's in February if the ground be open; a last sowing of the same and also one of Advancer and Bellamy's Early Green Marrow should be made in the first mild open weather in March. In the third week in March sow Bellamy's Early Green Marrow, Prizetaker, and Champion of England. Three sowings in April may be of Champion of England, Matchless Marrow, Flack's Victory, Veitch's Perfection, and Ne Plus Ultra; make three sowings in May of Ne Plus Ultra, British Queen, and Hairs Dwarf Mammoth, a sowing of British Queen and Ne Plus Ultra in the first week in June, and a last sowing on or about the 15th of June of Burbridge's Eclipse and Bishop's New Long-podded Dwarf; you will then have Peas in succession with certainty.

GREENHOUSE ARRANGEMENTS (Marina).—Your house being so narrow would best with a walk along the centre, and a table or shelf on both sides, that in front being 3 feet wide, and the back four, with a three-feet pathway. The roof is very steep as shown by the sketch sent, unnecessarily so. We would, if the house is not yet erected, have the front wall built higher, so as to allow of head room 3 feet from the front, and there have a table or stone shelf 2 feet wide, then a three-feet path, and a stage at back. Your proposed plan of having a border by the wall, and a wide shelf or table in front is not desirable, for the plants would for the most part be out of view, from the tallest plants being close to the path and the smaller ones in front. A fine along the front and both ends would afford sufficient heat, and its having the fire-hole in the courtyard will not interfere with the heating.

GARDEN PLAN (Idem).—Your arrangements seem to be in the right direction. We would have grass laid quite up to the house on the north side, extending from the house to the carriage drive. Borders adjoining buildings do not look well, and instead of having beds cut in the grass, plant, midway between the house and the carriage drive, silver and golden-leaved Hollies, alternately with Irish Yews, at 12 feet apart; the Hollies to be trained and cut as pyramids. Whatever plants you might employ in the beds, were these made, would not do well shaded as they would be by the house, whilst grass and the shrubs would always be green and ornamental.



**NETTING (Nemo).**—Directions for making square-meshed netting are given in No. 292, first series, page 84, and a more rapid mode in No. 318.

**THRIFEROIA, WINTERING (N. W.).**—You do not state whether it is the shrubby or herbaceous kind, but, whichever it is, it should have a light airy situation in a house with a temperature of 55°, and not less than 50°, from fire heat, and be kept dry at the root, though not dried dry, giving a little water now and then to keep the stems from drying up.

**PRIMULAS WITH SHORT FLOWER-STALKS (I. O. U.).**—The plants are, we presume, very vigorous, and what is called "lent-prond." Their being in a temperature of from 55 to 60 will not make the stalks grow any longer, and it is at least 15 or 20 too high. A temperature of 45 from fire heat would be more suitable. In such a temperature the flower-stalks will become long enough after a while. In autumn the flowers are usually produced on short flower-stems, but these become longer as the season advances.

**THRIPS AND BROWN SCALE (Idem).**—Filling the house with tobacco smoke on two consecutive evenings will kill the first—that is, all the perfect insects, but the eggs no amount of fumigation will kill, and that is why some people say tobacco smoke will not kill thrips. Our practice is to fumigate whenever we find one, for after the first comes another, and very often a third and fourth, generation before this troublesome insect can be effectually destroyed. We therefore recommend you to fumigate on two consecutive nights, filling the house with smoke so that a plant cannot be seen from the outside, always taking care to have the leaves of the plants dry, and choosing a calm evening for the operation. In a few days more thrips will make their appearance, then fumigate, and so on whenever a thrips is found. Brown scale on stove plants may be eradicated by picking off the insects whilst young and soft with the point of a knife. If left until they become brown and hard, this mode of destruction is only a means of augmenting their numbers. Wash the leaves with a solution of 8 ozs. of soft soap to the gallon of water, and syringe immediately afterwards with water at 140°, using a sponge, and a brush to go into the crevices. Persist in a course of cleanliness of this kind, and the scale will be gradually overcome.

**SHRUBS TO FLOWER FROM MARCH TO MAY (B.).**—In addition to those in your list are *Ledum latifolium*, *Kalmia glauca*, *Rhododendrons* of the *Nobleum* family, *Lyrrus japonica*, *Deutzias*, *Prunus triloba*, double-blossomed Cherry, *Kerria japonica*, tree *Paeonies*, *Weigela rosea* (flowering as early as some of those in your list), *Forsythia viridissima*, and *Cistus* in variety.

**HERBACEOUS PLANTS TO BLOOM IN SPRING (Idem).**—You will find an extensive list at pages 367 and 385 of Vol. VII. New Series, a few of which are herbaceous *Paeonies*, *Trollius* Europeans, and *T. americana*, *Anemone* vars., *A. apennina* and *A. uraleensis*, *Gentiana verna* and *G. acaulis*, *Coronilla ibérica*, *Cheiranthus cheiri* *luteus*, *C. Marshallii*, *Primula auricula*, and *Primroses* in great variety, *Adonis vernalis*, *Callula palustris* plena, *Aubrietia deltoidea* and *grandiflora*, *Alyssum saxatile*, *Draba aizoon*, *D. aizoides*, *Iris sibirica*, *Polemonium ceruleum*, *Ranuncula pyrenica*, *Pulmonaria azurea*, *Scutellaria alpina*, *S. altissima*, *Vineas*, *Dicentra spectabilis*, *Pulmonaria officinalis*, and *P. grandiflora*, *Orobanch vernus*, *Tussilago fragrans*, *Phlox amara*, pilosa, and verna, *Convallaria majalis*, *Dodecatheon meadia*, *Cerastium alpinum*, *Biebersteinii*, and *lomentosum*, *Iris pumila* and *sibirica*, vars., *Cardamine pratensis* flore pleno, double *Dianthus*, *Arabis alba* and *alpina*, *Trillium grandiflorum*, and various bulbs, with *Iberis sempervirens* and *Tenoreana*.

**PLANTS FOR VASES TO FLOWER IN SPRING (Idem).**—*Draba aizoides*, yellow; *Liaaria cymbalaria* alba, white; *Lotus corniculatus* flore pleno, yellow; *Cerastium tomentosum*, white; *Alyssum saxatile* compactum, yellow; *Arabis alpina*, white; *Phlox verna*, pink; and *Aubrietia deltoidea* *grandiflora*, bluish purple.

**FERNS (P. B.).**—None of the expensive books on Ferns contain directions for their cultivation. To meet your requirements buy Lowe's "Native Ferns," and Johnson's "British Ferns." The latter you can have free by post from our office for forty-six postage stamps.

**PROTECTING A HONEYSUCKLE (C. Repton).**—Your very sweet Honeysuckle is probably *Lonicera odoratissima*. It should be perfectly hardy, trained to the wall of your house with a south aspect, and require no protection; but you may, to make safe, protect it by mats during severe weather; the mats need not be removed every day, but remain on day and night so long as the frosts continue, taking them off, however, in mild weather. We think the taking-up of the plant and potting it would check its growth too much for it to do well in the following year.

**APELANDRA LEOPOLDI CULTURE (A New Subscriber).**—Well may your plant not grow, and only have two or three leaves no larger than those of a Myrtle, when it is potted in a compost of equal parts of dung (poison to a plant without roots), turfy loam, and leaf mould. Turn the plant out of the pot, and shake away all the soil, preserving the roots if any, and pot it in a pot just large enough to hold it well, draining it properly, and using a compost of turfy sandy peat one-third, and two-thirds turfy light loam, adding about one-sixth of silver sand, the whole chopped with a spade and made fine, but not sifted. Give a little water to settle the soil, and if you could plunge the pot in a bottom heat of 75° instead of 65°, all the better. Give no more water than is sufficient to keep the soil just moist, but not wet, until the leaves are at least four times the size of those of a Myrtle, then give water more copiously, but none until the soil shows that it is required. It does well in a temperature of 60° in winter from fire heat, and requires a rather moist atmosphere when growing, a light situation near the glass, and a fair amount of air. We cannot name plants from such bruised scraps as those you sent us; good specimens in bloom ought to be sent.

**HOUSE SEWAGE (Z. Y.).**—It will injure, rather than benefit, fruit trees and Strawberries at any season of the year. Let it be thrown over vacant ground, where kitchen garden crops are to be grown next year.

**TREES SUITABLE FOR A CHURCHYARD (H. H. C.).**—All evergreens that will suit the soil and situation. *Laurustinus*, *Holly*, *Laurel*, *Berberis Darwini*, and *Conifers*.

**GRAFTING GERANIUMS (Culcraia).**—A few hints on the subject will shortly be given.

**BOOK ON TREES (J. Robinson).**—No such work has been published since London's.

**ERBATUM.**—Page 440, 1st column, Alpine plants, *Primulas*, for "*Prinula formosa*," read "*P. farinosa*."

**TRANSPLANTING STRAWBERRIES FROM NURSERY-BEDS (O. D.).**—The plants or runners pricked off last August are none the worse of not being planted in autumn. Your making the bed now is right; be sure to dig it at least 2 feet deep, and to work in a liberal dressing of manure. The soil will be pulverised and enriched by exposure to the frosts of winter; we would therefore advise, if the soil is at all heavy, to throw it up in ridges, or at any rate roughly, to level it during dry frosty weather in February, and to plant early in March, and when the ground is in good working order. The runners may remain attached to the plants until these are planted out in the beds, and may be planted out at the same time. Though the runners will not fruit that year, they will, nevertheless, make strong plants for fruiting another season. March is the best of all seasons for planting Strawberries, and if done carefully with balls the plants securely sustain any check. Your old beds would certainly be improved by taking out every other plant if the plants are very close together; if not, then a good dressing of manure applied now or before March, and then pointed in without going so deep as to injure the roots, would, we think, help to make the fruit larger. Your proposal to do away with half the old beds now is beginning at the wrong end, and had better not be carried into effect until after the fruit has been gathered next year; then break up the beds at once, and after manuring the ground plant it with Broccoli or Winter Greens, and after being occupied with other crops for a year or two the same ground may be laid down in Strawberries again. Your Black Prince, Keen's Seedling, and Sir Charles Napier plants, planted in small beds last October, should be planted out in March, and they with the others will fruit well in the following year, and if in sufficient numbers no loss will be experienced in consequence of the destruction of the old beds.

**VINES IN POTS (Idem).**—You have not read the "Vine Manual" aright. Your Vines being fruiting canes, extra strong, and 6 feet long, instead of being pruned to two eyes, should not be pruned at all if you intend to have fruit upon them next year; but if they are not strong enough for fruiting, then they should be pruned to two eyes, from each of which will come a shoot; the strongest only is to be retained, and the other rubbed off. The canes will not have side shoots, we think, or if they have these will only be laterals, which should be cut off quite close to the cane. If they have side shoots, which is not usual, then you may cut them into two eyes. They should be potted now into pots 15 inches in diameter, providing good drainage. Four or five stakes being put in just within the pot, the cane should be coiled round the outside of the stakes, taking care not to wrench the cane or break it, otherwise it will bleed. The Vines may be taken into the greenhouse in February, as you propose, though they would sustain no injury if taken there now, if the temperature from fire heat does not exceed 40°. If you keep them out of doors the pots must be protected from frost by a covering of litter, otherwise the roots will be injured, and wet will do them no good.

**PLANTING VINES (Idem).**—You have done wrong to pot the Vine you intend to plant in the border next March; the roots will be disturbed, and induced to emit fresh fibres, only to be broken when again planted. The other would be better if left where it is until next March, when it could be taken up and planted in the border. March is the right time to plant them. The "Vine Manual" will tell you how it is to be done. We are far from desirous of discouraging you, but we do not think coiling Vines at all desirable; but there is no harm in trying it, only it is a waste of time, space, and material.

**ROSES MILDEWING (C. Burk).**—It would be a step towards preventing your Roses mildewing if you were to trench the ground deeply, and work in a liberal dressing of manure, and if you could replace your poor sandy soil by rather strong rich loam, all the better. Your Roses, we presume, are on the Dog Rose stock, and those so worked are very subject to mildew on light, sandy, dry soils; to keep it down the waterings in summer should be frequent and abundant, and to keep the soil moist, as well as to enrich it, a mulching of short manure should be given in spring, renewing it in June. In light soils Roses are not so liable to mildew when on their own roots as when upon the Dog Rose and Manetti stocks.

**POTATOES FROM SEED (A. C.).**—You cannot buy the seed of any variety, you must buy tubers of it, plant them, and save the seed from the berries or apples when ripe. Dry the apples in the sun, place them in strong earthen jars or boxes, and bury them deep in the earth, secure from frost. In the spring have ready a plot of ground the same as you would prepare for Onions. Sow the Potato-apples thinly on the ground, covering them thinly with fine rich soil. Prepare a second plot of ground, and when the plants are strong enough to pull up without breaking, transplant them into your prepared ground, as they spring up in myriads and are liable to become entangled. Have your ground ready in the usual way, and when the plants are strong dibble them in, not too deep, taking care they get at the manure at once. When they have begun to grow, a top-dressing of diluted liquid manure is the best thing that can be applied. The first year the tubers of seedling Potatoes are very small, and never fit for table use. The second year some of the tubers are of a size about that at which forced Potatoes usually are cooked; but not until the third year are tubers produced of an adult size.

**PLANTING VINES (An Amateur).**—1. If the Vines you have had four years in pots in an orchard-house are strong, and if they have not produced much fruit, they would do very well for planting out for an unheated vinery. If they have fruited much in the pots, then we would prefer young Vines one or two years from the bud. 2. In either case we would prefer disentangling the most of the roots carefully, without breaking them, and spreading them out. In either case it matters little whether you plant now or in spring, but if now, some nice aired warm soil should be placed round the roots, and the ground protected by litter, so as to keep out the snows and frosts of winter. When this care is not given it would be better to defer till March, and give similar care then. In either case, whether old or young Vines are used, the Vines should be cut back, and nothing thought of excepting making wood the first year. 3. Much the same answer. In many cases a part of the centre of the ball may be left, and the rest of the roots spread out. The chief reason for spreading out the roots is to prevent them running at once down into the border, instead of extending more horizontally, and plants turned out with balls are more liable to take the downward tendency. 4. You may have the rods in your vinery from 30 inches apart, if you have nothing but Vines in it. If you grow anything much below them, from 4 to 5 or 6 feet will be near enough, according as you give the preference to Vines or under-crops. The rods should be from 15 to 18 inches from the glass.



**FLOWER BORDER—TANK COVERS** (*Calcaria*).—We are hardly in a position to criticise your beautiful panel border, as some years ago we had one exactly the same, and the planting was also much the same. The only remark we consider it necessary to make is on the importance of having the *Geraniums* in the diamonds low, so as to be rather under the *Verbenas* and the *Calceolarias*, and some of those mentioned we are not sufficiently acquainted with. *Christine* would do, and alternate beds of that and *Tom Thumb*, or *Little David*, would be charming. With the height of the diamonds all right, the sloping border will be beautiful. Slate is the best covering for tanks. Where little weight is to be placed on them, the slate as used for houses, and even flat tiles as used for roofs, would do very well. A very cheap cover is thus made:—Place pieces of wood along or across, say 1 inch thick and 3 inches wide, and have openings between from 2½ to 3 inches. Stuff all these openings with pieces of tile, brickbats, furnace clinkers, &c., place a little pebbly gravel over that, covering all, and sand or ashes to plunge in. The cheapest tank for heating purposes would be one of wood, say 4 inches deep; and, when thus covered, the heat comes up through the clinker spaces. Covering with slate would be better, even if thin. We have also covered with zinc and plate iron.

**HEATING FROM A KITCHEN FIRE** (*T.*).—Your boiler apparently consists of a block of metal at the back of the kitchen grate, 14 inches long, 9 inches deep, and 3 inches wide, and in this block there are three openings or perforations that you call the water-way, forming at one end the flow, and at the other the return pipe, and these water-ways are connected together by the most acute angles possible. We are in doubt as to the capacity of the water-ways, which you say is a pint. Do you mean that a pint of water fills the whole of these three water-ways? If so, your water-ways must be exceedingly small openings in the block of metal, and quite insufficient to keep up anything like circulation in the pipes of a house 34 by 13 feet. We can imagine a block of metal so perforated with connected water-ways, each on the level, and connected together with rounded joints, semicircular, and not with these acute angle junctions, and holding a gallon or two of water, acting moderately well; but we should not expect such a contrivance to answer so well as the commonest small kitchen boiler. In such a case as yours, and with such a house to heat, the simplest boiler would act better than such a block of metal, where, if the metal become very hot, the water in small spaces has a chance of being turned into steam. Then the common boiler could be so set as to leave a small space underneath for the heat to play upon, and then at night the fire could be collected round it, and an iron plate placed in front of it. You may succeed with your present arrangement, though we see nothing of an improvement in it. Where is your supply-cistern? How about an air-pipe? Or do you take your pipes in the house from the level of the boiler?

**BOOKS ON ORCHIDS AND FERNS** (*E. A. G.*).—You can have, free by post from our office for thirty-two postage stamps, "The Orchid Manual," and for sixty-four stamps "The Fern Manual." They contain the information you need.

**BOOK** (*T. T.*).—The dictionary you mention is out of print.

**VINES IN POTS** (*J. Robson*).—If you wish your short-jointed Vines in 10-inch pots to fruit fully in the conservatory next season, we would not repeat them, but keep them as they are all the winter with merely the pot protected from frost, and the head too, if the weather is severe. Then in March we would set the pot into a drained saucer with some rich soil in it, top-dress with rich compost, and allow the plants to break naturally without any bottom heat. If you will be satisfied with little fruit next season, but wish the same pots to continue bearing several years, then we would advise shifting the plants now into 14 or 15-inch pots, just easing the fibres outside the ball, and then plunging the pots over the head in a bottom heat of from 70° to 75°, which can be easily secured in an open shed or other place, by a little litter and fermenting tree leaves, &c., the tops remaining exposed, except in severe weather. If the roots reach the sides of the pot before March, it will be better to cool the pot gradually, and not give bottom heat then, as you propose. Prune back, as you propose, before the sap begins to run. Pot Vines, to bear continuously, must not be heavily cropped in any one year—say four bunches are about a medium.

**NECTARINES WITHERING** (*Inquirer*).—As the tree is so healthy, the withering, or rather the shrivelling, of the fruit just before attaining maturity, we should attribute to the heavy crop, the extreme heat, and, perhaps, a temporary deficiency of water. Some tender Nectarines exposed to the full sunshine would have been helped in such heat by a slight shade. Very probably if you had taken a fourth or a third less of a crop you would have been more successful. We are glad you preserved them. When nearly full grown and swelled, Nectarines make a good preserve. When green and hard, we know of no real use to which they can be turned.

**WHAT IS A PROFESSION?** (*R. E. P.*).—Johnson defines it, "A calling; vocation; known employment;" consequently, employments of "a gardener and cook" come within the definition. Formerly Divinity, Law, Arms, and Physic were those vocations to which the term "profession" was confined, but this was an arbitrary distinction.

**MANAGEMENT OF GREENHOUSE AND STOVE** (*A Subscriber*).—"In-door Gardening" will suit you exactly. You can have it, free by post, from our office for twenty postage stamps.

**VARIETIES OF VERBENA VELVET CUSHION** (*A. S. S.*).—Apply to Messrs. E. G. Henderson & Son, Wellington Nursery, Wellington Road, St. John's Wood, London, N.W.

**NAMES OF FRUIT** (*W. Matthews*).—2, Winter Codlin; 3, Selwood's Reinette; 4, Veiny Pippin. (*G. S.*).—1, Passe Colmar; 2, St. Lézin; 3, Easter Beurre; 6, Norfolk Beare.

**NAMES OF PLANTS** (*A Kerry Subscriber*).—1, *Fontinalis antipyretica*; 2, *Polytrichum undulatum*; 3, *Hypnum curvatum*; 4 and 5, *Sphagnum acutifolium*; 6, *Hypnum ruscifolium*; 7, *Dicranum adiantoides*; 9, *Bartamia fontana*; 8, not a Moss but *Lycopodium selago*. (*K., Alresford*).—1, *Columna*? (crushed); 2, *Thysanacanthus rutilans*. (*A. H.*).—A variety of *Quercus ilex*. (*W. H. Hitchcock*).—Not *Physostigma*; send again when in flower.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending December 2nd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 26	29.507	29.196	44	26	50	49	S.W.	.04	Fine, but windy; damp and showery; fine at night.
Mon. . . 27	29.694	29.460	41	33	49	49	N.E.	.03	Foggy; very fine; showery.
Tues. . 28	29.359	29.114	48	41	49	48½	S.E.	.29	Rain; showery; wet at night.
Wed. . . 29	29.687	28.520	49	35	49	49	W.	.02	Overcast; densely clouded and cold; cloudy at night.
Thurs. 30	30.001	29.892	49	36	49	48	N.E.	.02	Hazy; partially overcast, and fine.
Fri. . . 1	30.018	29.906	48	36	48	48	N.E.	.00	Hazy clouds; hazy; overcast.
Sat. . . 2	29.795	29.637	48	35	48	48½	S.E.	.00	Fine; very fine in forenoon; becoming overcast; fine at night.
Mean..	29.723	29.532	46.71	34.57	48.86	48.57	....	0.40	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### RAILWAY CARRIAGE.

PERHAPS, of all friends, those with "a grievance" are those that we esteem the least. The grievance may be real, or it may exist only in the imagination of the victim, and, perhaps, the latter is the more hopeless of the two. Still, it has often struck me that railway directors having friends afflicted with the poultry mania, must find that some of them have "a grievance." I believe it to be no fiction, and therefore capable of cure under proper remedies. Can we apply them? The railway authorities might easily do so, and I think they would be benefited by the result. I presume that the greater the traffic on a line, the more likely is that line to pay a respectable dividend. There are some speculations, indeed, that collapse the more quickly in proportion to the largeness of their transactions, just the same as the danger of a soap-bubble's bursting is in proportion to its size and its *coulour de rose* complexion. Can it be that some of the railway companies are afraid of this? Possibly, were it necessary to put on fresh engines and trains for the conveyance of some hundred hampers. This, however, we know to be unnecessary. Extra trains may be put on, not, however, for the conveyance of hampers, but of passengers; and the

outside world have generally imagined that these excursion trains paid satisfactorily; perhaps this is a myth, perhaps it is after all simply a charitable idea on the part of the directors; if the latter, we poultry-fanciers simply say, Extend your charity, and receive, as you will deserve, our gratitude.

Believing, however, that the increase of traffic on any given line is considered a sign of corresponding success, we may ask, Why do railway authorities snub poultry-fanciers, who certainly have contributed not a little to this increase? What can be their object? Is it possible that the old Latin proverb applies to their case, and that "those whom the gods desire to destroy they first render insane?" Certainly the original shareholders in some of these companies, who, with anxious hearts have watched the present quotations becoming "small by degrees and beautifully less," must consider the sanity of their directors, in adopting measures that serve to lessen the revenue, somewhat doubtful! Do poultry shows add to the revenue of railways? There can be no question that they do. There is the carriage of the birds, the increased passenger traffic in consequence solely of the show. Is it not, then, evidence of doubtful sanity that railway authorities do not foster poultry shows? We could believe that money offered as a cup by a railway on which a show was being held, would be money well invested. Poultry-fanciers do not ask for this; they say, We send a number of packages by your line, we have already paid



a certain amount of entrance money to entitle us to exhibit our specimens; the large majority of us must spend our money receiving no return, for all of us cannot take, even if we deserve prizes; even many of us find that when successful, the speculation has been a losing game. Perhaps, like my "man Friday," who met me once on my return from a rifle meeting, where I had succeeded in winning a £1 prize, only it cost me 25s. to do it, they "do not seem to see the gude on't," and as this is a species of success that, if repeated, is apt to pall on the appetite, and make the victor exclaim, like Pyrrhus, "One more such victory, and I am lost," it would be well to devise some means of lessening this evil. All, I imagine, that an exhibitor would ask is that specimens unsold should be returned free, or at least as empties. Now, considering that any railway company would return an actual empty hamper at the rate of twopence or threepence, even though it occupy the same space as when full, and even if, as in the case of an ordinary parcel, it cannot possibly have augmented the traffic beyond the original journey, it does seem unfair, as well as unwise, to refuse this to unsold specimens at poultry shows, which indirectly have added to the ordinary traffic. The space occupied is the same, and the iron horse would not protest against the weight. The authorities, however, do; but with an inconsistency peculiarly their own, they allow this boon frequently to stock and implements, adding insult to injury by the words "except poultry;" yet the latter is the more popular portion of the show!!

With the permission of our Editors I shall return again to this subject; meanwhile, I commend the matter to the serious consideration of my brother and sister exhibitors. Let us see whether we cannot by continual dropping make the evil understood. Possibly, then, the remedy may be applied.—Y. B. A. Z.

## THE BIRMINGHAM POULTRY SHOW.

THE annual Exhibitions in Birmingham, which attract so much attention, are now open; the Cattle and Poultry Show, in Bingley Hall, and the exhibition of Sporting and other Dogs, in the new Curzon Hall. The prevalence of disease amongst stock has been a source of considerable anxiety to the promoters of exhibitions this year, but, nevertheless, the entries do not appear to have fallen off materially. For the Birmingham Show the number of cattle entered was 135, but some of these have been withdrawn. There are ninety entries of sheep—a much larger number than on several recent occasions, and above the average amount; while of jags, the catalogue contains a list of seventy-one pens. In the department for corn, there are forty-five entries; and although the season which has just closed has not been propitious for roots, the Judges had to decide upon the respective merits of about 110 different lots. The feathered tribes muster in greater force than usual, for the total of the pens of poultry entered are 1675, and of Pigeons 331, the latter display being the largest of the kind which has yet been witnessed. To all these the implements, seedmen's stands, &c., must be added, and when this is done, we have a bill of fare which can scarcely fail to satisfy the reasonable expectations of every class of visitors. The entries of sporting and other dogs are nearly eight hundred in number. The Fruit and Chrysanthemum Exhibition, in the Town Hall, which has now become one of the permanent attractions in the Birmingham Show Week, opened on Saturday, and will close this evening. The usual liberal arrangements for special trains from all quarters have been made by the railway companies.

Subjoined is a list of the Poultry awards, and a full report of the Show, and the commendations, will be given in our next Number.

**DORKING (Coloured).—**First and Second, Admiral Hornby, Knowsley Cottage, Prescott. Third, Capt. H. B. Lane, Berkshire. Fourth, Right Hon. Viscountess Holmesdale, Linton Park. *Chickens.*—First, Admiral Hornby. Second, Fourth, and Fifth, Mrs. Arkwright, Derby. Third, Right Hon. Viscountess Holmesdale. Sixth, Right Hon. Lady Egrot, Blithfield Hall, Rugby. *Hens.*—First, Right Hon. Viscountess Holmesdale. Second, Mrs. F. Blair, Inchtute, N.E. Third, Rev. E. Cadogan, Walton Paragon, Warwick. *Pullets.*—First, C. Cork, Shoreham, Essex. Second, Mrs. Young, Stratford-upon-Avon. Third, T. B. Wright, The Quarry House, Great Barr.

**DORKINGS (White).—**First, J. Robinson, Vale House, Garstang. Second, H. Lingwood, Barking, Needham Market, Suffolk. *Chickens.*—First and Second, H. Lingwood.

**SPANISH.—**First, H. Lane, Milk Street, Bristol. Second, A. Heath, Calne, Wilts. Third, A. Fenton, Crimble Hall, Rochdale. *Chickens.*—First, W. Koue, Park Street, Bristol. Second, W. R. Bull, Newport Pagnell, Bucks. Third, H. Lane. Fourth, G. Lamb, Compton, near Wolverhampton. *Hens.*—First, E. Draper, Primrose Hill, Northampton. Second, J. Smith, Bradford Street, Walsall. *Pullets.*—First, W. Nicklin, Hatherton Street, Walsall. Second, Miss Biggar, Braes House, Ecclefechan, Dumfriesshire.

**COCHIN-CHINA (Cinnamon and Buff).—**First, J. Cattell, Lime Villa, Bristol Road, Edgbaston. Second, T. Stretch, Ormskirk. Third, H. Tomlinson, Balsall Heath Road, Birmingham. Fourth, H. Bates, Vintage House, Yurdley, near Birmingham. *Chickens.*—First, J. Nelson, Heaton Mersey, Manchester. Second, T. Stretch. Third, Capt. H. Heaton, Lower Broughton, Manchester. Fourth, Mrs. R. White, Broomhall Park,

Sheffield. *Hens.*—First, J. Stevens, Walsall. Second, C. Jennison, Bello Vue, Manchester. *Pullets.*—First, H. Lingwood, Needham Market, Suffolk. Second, C. Jennison.

**COCHIN CHINA (Brown and Partridge-feathered).—**First, and Amateurs' prize of £3 3s., T. Stretch, Ormskirk. Second, Rev. W. H. Fell, Fleetwood. Third, E. Tudman, Ash Grove, Whitechurch, Salop. *Chickens.*—First and Second, and Amateurs' prize of £3 3s., T. Stretch, Ormskirk. Third, E. Tudman. *Hens.*—First and Second, Capt. H. Heaton, Lower Broughton, Manchester. *Pullets.*—First, T. Stretch. Second, E. Tudman.

**COCHIN CHINA (White).—**First, R. Chase, Tyndal Street, Balsall Heath, Birmingham. Second, H. Yardley, Market Hall, Birmingham. Third, Rev. F. Taylor, Keastwick, Kirby Lonsdale. *Chickens.*—First and Second, Rev. F. Taylor. Third, R. Chase.

**BRAHMA POOTRA (Dark).—**First, H. Lacy, Lacy House, near Hebden Bridge. Second, R. W. Boyle, Galfarm House, Bray, County Wicklow. *Chickens.*—First, T. Statler, Stand, Manchester. Second, Mrs. Hurt, Alderwasley, Derby.

**BRAHMA POOTRA (Light).—**First and Second, J. Pares, Childown Hall, Chertsey. *Chickens.*—First, J. Clark, Chiswick Mall, Middlesex. Second, F. Crook, Vine Cottage, Forest Hill, London, S.E.

**MALAY.—**First, Rev. A. G. Brooke, Rayton XI Towns, Salop. Second, T. Ballance, Sydney House, Homerton, near London. *Chickens.*—First, J. Hinton, Hinton, near Bath. Second, G. Hustler, Stillingfleet, York.

**GREY-COUR.—**First and Second, W. Blinkhorn, Waterdale, near St. Helen's, Lancashire. *Chickens.*—First, Mrs. Hurt, Alderwasley, Derby. Second, W. Blinkhorn, Waterdale, near St. Helen's, Lancashire.

**HAMMURCH (Black).—**First, R. Tate, Green Road Leeds. Second, R. F. Goodwin, Middleton, near Manchester. *Chickens.*—First, G. Lingard, jun., Snow Hill, Birmingham. Second, A. Woods, the Grange, Setton, near Liverpool.

**HAMMURCH (Golden-pencilled).—**First, J. E. Powers, Biggleswade, Bedfordshire. Second, F. Pittis, jun., Newport House, Newport, Isle of Wight. Third, A. O. Worthington, Newton Park, Burton-upon-Trent. *Chickens.*—First, J. E. Powers, Biggleswade, Bedfordshire. Second, T. Wrigley, Tonge, Middleton, Manchester. Third, Rev. R. Roy, Skirbeck, Boston, Lincolnshire.

**HAMMURCH (Silver-pencilled).—**First, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Second, J. Robinson, Vale House, Garstang. Third, D. Harding, Middlewich, Cheshire. *Chickens.*—First, J. Preston, Allerton, near Bradford. Second, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Third, Right Hon. the Viscountess Holmesdale, Linton Park, Staplehurst, Kent. *Hens.*—First, J. E. Powers, Biggleswade, Bedfordshire (Golden). Second, W. Bradley, Severn Navigation, Worcester (Silver). *Pullets.*—First, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Second, J. Holland, Chesnut Walk, Worcester (Silver).

**HAMMURCH (Golden-spangled).—**First, W. Kershaw, Heywood, near Manchester. Second, S. H. Hyde, Ashton-under-Lyne. Third, H. Beldon, Bingley. *Chickens.*—First and Second, J. Buckley, Taunton, near Ashton-under-Lyne. Third, I. Davies, Harborne, near Birmingham.

**HAMMURCH (Silver-spangled).—**First, Sir St. G. Gore, Bart., Wirksworth, Derbyshire. Second, J. Fielding, Newchurch, near Manchester. Third, J. Robinson, Vale House, Garstang. *Chickens.*—First and Second, G. E. Hardman, Rawtenstall, near Manchester. Third, A. Woods, Setton, near Liverpool.

**HAMMURCH (Spangled).—Hens.—First and Second, J. Palmer, Wednesbury. *Pullets.*—First, G. Whitcombe, Kingsholm, near Gloucester. Second, G. E. Hardman.**

**POLISH (Black with White Crests).—**First, T. P. Edwards, Lyndhurst, Hants. Second, J. Smith, Keighley, Yorkshire. *Chickens.*—First, Mrs. Proctor, Hutt Street, Hull. Second, J. Smith.

**POLISH (Golden).—**First, H. Beldon, Bingley, Yorkshire. Second, Mrs. Petat, Ashe Rectory, Easingstone. *Chickens.*—First and Second, W. Silvester, Hampden View, Sheffield.

**POLISH (Silver).—**First, G. C. Adkins, The Lightwoods, near Birmingham. Second, H. Beldon, Bingley. *Chickens.*—First and Second, G. C. Adkins.

**ANY OTHER DISTINCT VARIETY.—**First, The National Poultry Company, Bromley (La Fleche). Second, Right Hon. Countess of Aylesford, Leamington (Cuckoo Dorking). Third, Mrs. D. Haig, Lichfield (Andalusians). Fourth, Right Hon. Earl of Aylesford, Coventry (Japanese).

**GAME (Black-breasted Reds).—**First, R. Scrimminger, Failand, Lutterworth. Second and Third, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Fourth, A. B. Dyras, Madeley, Shropshire. *Chickens.*—First, W. Gamon, The Green, Thorton-le-Moor, near Chester. Second, Mrs. Hay, The Cottage, Sudbury, Derby. Third, J. Halsall, Ince, near Wigan. Fourth, R. Hewer, Fair Green, Chipping Norton, Oxon.

**GAME (Brown and other Reds, except Black-breasted).—**First, M. Billing, jun., Wood End, Erdington. Second, T. Statler, Stand, Manchester. Third, J. Wood, Moat House, Wigan. Fourth, M. Billing, jun. *Chickens.*—First and Cup, R. Scrimminger, Lutterworth. Second, J. Crosland, jun., Wakefield, Yorkshire. Third, E. Aykroyd, Gillington Road, near Bradford, Yorkshire. Fourth, T. Statler, Stand, Manchester.

**GAME (Black-breasted and other Reds).—Hens.—First, G. Clements, Newtown Row, Birmingham. Second, M. Billington, Wood End, Erdington, near Birmingham. *Pullets.*—First, J. Wood, Moat House, Wigan. Second, E. Aykroyd, Gillington Road, near Bradford, Yorkshire.**

**GAME (Duckwings, and other Greys and Blues).—**First, T. J. Charlton, Salt Street, Manningham, Bradford, Yorkshire. Second, Col. W. Blackburne, Claremont House, Leamington. Third, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Fourth, J. Halsall, Ince, near Wigan. *Chickens.*—First, J. Crosland, jun., Wakefield, Yorkshire. Second and Fourth, Sir St. G. Gore, Bart. Third, J. Halsall.

**GAME (Blacks and Brassy-winged, except Greys).—**First, G. W. Dawson, Hylton Street, Birmingham. Second, Messrs. Bullock & Rapson, Upper Parade, Leamington. *Chickens.*—First, G. W. Dawson. Second, A. O. Worthington, Newton Park, Burton-on-Trent.

**GAME (White and Piles).—**First, J. Sunderland, Coley Hall, near Halifax, Yorkshire. Second, Rev. F. Watson, Messing Hill House, Kelvedon, Essex. Third, M. W. Stobart, Middleton-One-Row, Darlington. *Chickens.*—First, J. Fletcher, Stoneclough, near Manchester. Second and Third, J. Sunderland.

**GAME HENS (except Black-breasted and other Reds).—**First, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Second, T. Mayhew, Temple Row, Birmingham. *Pullets.*—First, T. West, St. Ann's, Ecclestone, near St. Helen's, Lancashire. Second, J. Halsall, Ince, near Wigan.



## SINGLE COCKS.

**DORKING.**—First, Rev. E. Cadogan, Walton Parsonage, Warwick. Second, J. D. Hewson, M.D., Coton Hill, Stafford. Third, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Fourth, Mrs. Arkwright, Etwell Hall, Derby. Fifth, W. Parr, Patricroft, Manchester. Sixth, J. Beasley, Brampton House, near Northampton.

**SPANISH.**—First, E. Draper, Primrose Hill, Northampton. Second, H. Beldon, Gostock, Bingley, Yorkshire. Third, Miss Biggar, Brass House, Ecclefechan, Dumfriesshire.

**COCHIN-CHINA (Cinnamon and Buff).**—First, Mrs. R. White, Sheffield. Second, J. Cattell, Edglaston, Birmingham. Third, J. Shorthose, Newcastle-upon-Tyne.

**COCHIN-CHINA (Except Cinnamon and Buff).**—First, J. Rodbard, Wrington, near Bristol. Second and Third, T. Stretch, Ormskirk.

**BRABHIA POOTRA.**—First, T. Statter, Manchester. Second, Mrs. Hargreaves, Arborfield Hall, Reading. Third, J. K. Fowler, Prebendal Farm, Aylesbury.

**HAMBURG (Golden-pencilled).**—First, T. Wrigley, jun., Middleton, near Manchester. Second, J. E. Powers, Biggleswade, Bedfordshire. Third, Rev. R. Roy, Boston, Lincolnshire.

**HAMBURG (Silver-pencilled).**—First, Sir St. G. Gore, Bart., Wirksworth. Second, Viscountess Holmesdale, Linton Park. Third, E. E. M. Roys, Greenhill, Rochdale.

**HAMBURG (Golden-spangled).**—First, J. Palmer, Wednesbury. Second, T. May & T. Blakeman, Bloomshury Street, Wolverhampton. Third, S. H. Hyde, Ashton-under-Lyne.

**HAMBURG (Silver-spangled).**—First, J. Fielding, Newchurch, near Manchester. Second, H. Beldon, Bingley. Third, J. Skinner.

**POLISH.**—First, Mrs. Procter, Hull. Second and Third, G. C. Adkins, The Lightwoods, near Birmingham.

**GAME (White and Blue, Duckwings, and other varieties except Reds).**—First and Fourth, Sir St. G. Gore, Bart., Wirksworth. Second, J. H. Williams, Spring Bank, Welshpool. Third, J. Anderson, Meigle.

**GAME (Black-breasted Reds).**—First and Cup, Sir St. G. Gore, Bart. Second, J. Halsall, Ince, near Wigan. Third, A. B. Dyas, Madeley. Fourth, R. Swift, Southwell.

**GAME (Brown and other Reds, except Black-breasted).**—First and Second, T. Burgess, Burleydam. Third and Fourth, T. Statter.

**BANTAMS (Gold-laced).**—First, Rev. G. S. Cruwys, Tiverton, Devon. Second, U. Spary, Dunstable. Third, M. Leno, Dunstable.

**BANTAMS (Silver-laced).**—First and Second, M. Leno, Dunstable. Third, U. Spary, Dunstable.

**BANTAMS (White, Clean-legged).**—First, H. Draycott, Humberstone, near Leicester. Second, Rev. F. Teario, Collegiate School, Leicester. Third, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire.

**BANTAMS (Black, Clean-legged).**—First, T. Davies, Belmont Cottage, Stow Hill, Newport, Monmouth. Second, R. Swift, Southwell, Notts. Third, Miss J. A. & A. Briggs, Slack Beek Farm, Rawden, near Leeds.

**BANTAMS (Any other variety except Game).**—First, T. Boncher, Bull Street, Birmingham (Cochin). Second, H. C. Woodcock, Kearsby, Leicester (Japanese).

**GAME BANTAMS (Black-breasted Reds).**—First, R. Hawksley, jun., Southwell, Nottinghamshire. Second, J. Crosland, jun., Wakefield, Yorkshire. Third, H. Shumack, Brook Cottage, Southwell, Nottinghamshire. Fourth, Miss Crawford, Hill House, Farnfield, Southwell.

**GAME BANTAMS (Brown and other Reds, except Black-breasted).**—First, H. Shumack, Brook Cottage, Southwell, Nottinghamshire. Second, J. Anderson, Ruthven House, Meigle, N.B.

**GAME BANTAMS (Any other variety).**—First, R. Swift, Southwell, Nottinghamshire. Second, Rev. G. Raynor, Kelvedon Hatch Rectory, Brentwood, Essex. Third, J. Crosland, jun., Wakefield, Yorkshire.

**GAME BANTAM COCKS (Black-breasted and other Reds).**—First, J. W. Morris, Drake Street, Rochdale, Lancashire. Second, Miss S. N. Hill, Berrington, Shrewsbury. Third, G. Maples, jun., Wavertree, Liverpool.

**GAME BANTAM COCKS (Any other variety).**—First, Messrs. Smith and Cooke, Stavely, near Chesterfield, Derbyshire. Second, H. Shumack, Brook Cottage, Southwell, Nottinghamshire. Third, P. Unsworth, Sandy Lane, Loxton, near Warrington, Lancashire.

**DUCKS (White, Aylesbury).**—First and Third, Mrs. Seamons, Hartwell, Aylesbury, Buckinghamshire. Second, J. K. Fowler, Prebendal Farm, Aylesbury.

**DUCKS (Rouen).**—First, T. Statter, Stand, Manchester. Second, S. Shaw, Stainland, Halifax. Third, J. Anderson, Ruthven House, Meigle, N.B. Fourth, J. Nelson, Heaton Mersey, Manchester.

**DUCKS (Black East Indian).**—First, Rev. W. Serjeantson, Acton Bunnell Rectory, Shrewsbury. Second, S. Burn, East Terrace, Whitby, Yorkshire.

**DUCKS (Any other Variety).**—First, C. W. Brierley, Rhodes House, Middleton, near Manchester (Carolina). Second, W. Stephens, Highnam Green, near Gloucester (Call).

**GEES (White).**—First, Mrs. Seamons, Hartwell, Aylesbury, Buckinghamshire. Second, W. Lort, jun., The Cotteridge, King's Norton, near Birmingham. *Goslings.*—First, J. K. Fowler, Prebendal Farm, Aylesbury. Second, S. Lang, jun., The Shrubbery, Redland, near Bristol.

**GEES (Grey and Mottled).**—First, Mrs. E. Blair, Inchmartine, Inchture, N.B. Second, J. K. Fowler, Prebendal Farm, Aylesbury. *Goslings.*—First, Mrs. E. Blair. Second, Mrs. Seamons, Hartwell, Aylesbury. Third, W. Lort, jun., The Cotteridge, King's Norton.

**TURKEYS.**—First, Mrs. E. Blair, Inchmartine, Inchture, N.B. Second, — Hollis, Broad Street, Reading. Third, Mrs. A. Gny, Eaton, Grantham.

**POULTS.**—First, W. Wright, Fulbourn, Cambridge. Second, Mrs. A. Gny. Third, Mrs. Wolferstan, Statfold Hall, Tamworth.

## PIGEONS.

**ALMOND TUMBLERS.**—First, R. Filton, Duke Street, Deptford. Second, A. P. Leite, Rylaw House, Oxford Road, Manchester. Third, J. Ford, Monkwell Street, London.

**CARRIER (Black).**—First and Second, T. Colley, St. Philip's Road, Sheffield. (A good class.) *Hen.*—First, A. P. Leite, Oxford Road, Manchester. Second, E. L. Corker, High Street, Croydon, Surrey.

**CARRIERS (Any other colour).**—First, T. Colley, St. Philip's Road, Sheffield. Second, Messrs. W. Siddons & Sons, Lichfield Road, Aston, Birmingham. *Hen.*—First, T. Colley, Sheffield. Second, F. Else, Bayswater.

**POWTERS (Red or Blue).**—First, A. P. Leite, Oxford Road, Manchester. Second, A. Heath, Calne, Wilts. *Hen.*—First, A. Heath. Second, A. P. Leite.

**POWTERS (Any other colour).**—First, W. Harvey, Bank Street, Sheffield. Second, A. P. Leite, Rylaw House, Oxford Road, Manchester. *Hen.*—First and Second, A. P. Leite.

**BALDS.**—First, W. Chovey, jun., Sibson, near Atherstone, Warwickshire. Second, E. E. M. Roys, Green Hill, Rochdale.

**BEARDS.**—First, W. H. C. Oates, Beshorpe, Newark, Nottinghamshire. Second, F. Esquilart, Effra Road, Brixton, London, S. (A good class.)

**TUMBLERS (Mottled).**—First, R. Filton, Duke Street, Deptford. Second, A. P. Leite, Oxford Road, Manchester. (An excellent class.)

**TUMBLERS (Any other colour).**—First, J. Ford, Monkwell Street, London. Second, J. Fielding, jun., Yorkshire Street, Rochdale.

**RENTS.**—First and Second, T. D. Green, Saffron Walden, Essex, 4 lbs. 15 ozs. and 4 lbs. 6 ozs. Third, E. Pigeon, Lymington, near Exeter, 4 lbs. 3 ozs.

**JACOBS (Yellow).**—First, T. H. Ridpath, Poplar House, Rusholme, Manchester. Second, J. Owens, Villa Street, Walworth, London, S.

**JACOBS (Any other colour).**—First, M. Wicking, Blackheath Park, Kent. Second, T. H. Ridpath, Poplar House, Rusholme, Manchester (Black).

**FANTAILS (White).**—First, M. Wicking, Blackheath Park, Kent. Second, F. Else, Westbourne Grove, Bayswater. (A very good class.)

**FANTAILS (Any other colour).**—First, H. Yardley, Market Hall, Birmingham. Second, J. Baily, jun., Mount Street, London.

**TRUMPETERS (Mottled).**—First, S. Shaw, Stainland, Halifax. Second, J. R. Robinson, Nile Street, Sunderland.

**TRUMPETERS (Any other colour).**—First, R. Bulpin, Riverside, Bridge-water. Second, F. Else, Westbourne Grove, Bayswater.

**OWLS (Blue or Silver).**—First, J. Fielding, jun., Yorkshire Street, Rochdale (Blue). Second, F. Else, Westbourne Grove, Bayswater (Blue).

**OWLS (Any other colour).**—First, A. P. Leite, Oxford Road, Manchester. Second, W. Sanday, Holme Pierrepont, Nottinghamshire (White).

**NUNS.**—First, Rev. A. G. Brooke, Rayton IX Towns, Salop. Second, H. Yardley, Market Hall, Birmingham. Third, J. Thackray, Petergate, York.

**TURBITS (Red or Yellow).**—First, S. Shaw, Stainland, Halifax. Second, J. Thackray, Petergate, York (Red).

**TURBITS (Any other colour).**—First, S. Shaw, Stainland, Halifax. Second, W. Harvey, Bank Street, Sheffield.

**BARBS (Black).**—First, J. R. Robinson, Nile Street, Sunderland. Second, S. Shaw, Stainland, Halifax.

**BARBS (Any other colour).**—First, M. Hedley, Redhill, Surrey. Second, H. S. Salisbury, The Lawn, Kempsey, Worcestershire.

**DIAGONS (Blue).**—First, H. Yardley, Market Hall, Birmingham. Second, J. Percival, Clent Villa, Harborne, near Birmingham.

**DIAGONS (Any other colour).**—First, S. Shaw, Stainland, Halifax. Second, E. E. M. Roys, Greenhill, Rochdale (Yellow).

**MAGPIES.**—First, J. Thackray, Petergate, York. Second, M. Wicking, Blackheath Park, Kent. (An excellent class.)

**MAGPIES (Antwerps).**—First, S. A. Taylor, Wheeler Street, Lozells, Birmingham. Second, H. Yardley, Market Hall, Birmingham. (A very good class.)

**ARCHANGELS.**—First, J. Percival, Montpellier Row, Peckham Rye, London. Second, H. Yardley.

**MAGPIES (Any other New or Distinct Variety).**—First, A. P. Leite, Oxford Road, Manchester (Laced Fantails). Second, W. Harvey, Bank Street, Sheffield (Yellow Swallows). Third, F. H. Paget, Birstall, Leicestershire. (A very good class.)

**JUNGES.**—*Poultry.* The Rev. Robert Pulleine, the Rectory, Kirby Wiske, Thirsk; G. J. Andrews, Esq., Dorchester; Mr. John Baily, Mount Street, Grosvenor Square, London; J. H. Smith, Esq., Skelton Grange, York; Mr. Joseph Hindson, Barton House, Everton, Liverpool.

*Pigeons.* Mr. Harrison Weir, Lyndhurst Road, Peckham, London; Mr. T. J. Cottle, Paltney Villa, Cheltenham.

## SOUTHAMPTON POULTRY AND PIGEON EXHIBITION.

This Exhibition was held at the Carlton Rooms, Southampton, on Tuesday, Wednesday, and Thursday last, and as this was the first time of holding a show of poultry in connection with the long-established exhibition of Canaries and British and Foreign Birds, the public interest was much augmented. No building could be named more suitable for the purposes of such a meeting, as it is large, light, and exceedingly well ventilated. The day of opening was unfortunately most unpropitious, for it rained incessantly from morning until nightfall. It proved, in fact, just such a day as prevented any one from voluntarily seeking out-of-door pleasures, and as the Carlton Rooms are situated some considerable distance from the centre of Southampton, the attendance was necessarily scanty.

The *Spanish* class was good, and the generality of the pens shown were in superior condition. The *Dorkings* of all colours competed together, some very excellent White ones in particular attracted the attention of amateurs, but the chances of success when contesting with Coloured Dorkings are sadly adverse to the White ones. A marvellously good White Dorking cock was shown, but suffering from deeply-seated disease. The Buff and the Partridge-coloured *Cochins* were far below the average of most local exhibitions; the White *Cochins* were, however, much better. The *Brahmas* were a good class, but beyond comparison the best pen was thrown out of competition from containing a hen suffering from confirmed vertigo. As usual, the dark-feathered *Brahmas* were infinitely superior to those of light colour. The *Game* classes did not prove of equal excellence to our anticipations, want of condition being an almost universal failing. Several exhibitors had evidently not paid any regard whatever to



matching the inmates of each pen as to the colour of the legs. Any decided variation on this point is invariably fatal to success. Mr. F. Pittis's Golden-pencilled *Hamburghs* were exceedingly good, and so much so, as to cause the winning of both prizes to be a mere "walk-over." We were told, however, that the great strength of this gentleman's yard was held in reserve for the Birmingham Show. To *Hamburgh* fanciers, no doubt a great treat is in store, and it is a matter of congratulation, for this beautiful variety of poultry has been for the last few years much neglected. The Silver and the Golden-spangled *Hamburghs* were also excellent. Mr. T. P. Edwards, of Lyndhurst, exhibited a couple of pens of Black *Polands*, that would add credit to any show; but the other varieties of *Polands* were not well shown.

In the "Extra variety class," were some first-rate *Crève Cœur* fowls, some equally perfect *La Flèche* fowls, superior *Andalusians*, very good *Silkie*s, and unusually good *Malaya*s. Besides these, there were shown in this class a pair of young, well-grown birds, bred between the pure Indian *Jungle* cock, and the *Golden Bantam* hen. Their gait and plumage were of a very striking character, and lent much interest to the show. A cross between the real *Jungle* cock and a small Black Red Game *Bantam* hen would, however, be productive of a far more beautiful race of chickens, than could be hoped for from the intermixture with the *Golden Bantam* hen, the carriage of the latter breed being so dissimilar to that of the *Jungle* fowl, as to render hopeless the breeding back to the original characteristics of the wild male parent, which can, however, be done easily in a few generations by the plan just suggested.

The great feature of the show was its *Bantam* class, open to all breeds, and resulting in a double set of prizes being awarded at the request of the Committee, as thirty-six pens of excellent birds were in competition. These four prizes were taken by two pens of Black Red Game *Bantams*, a pen of Birchen Grey Game *Bantams*, and a lovely trio of Red Piles, the last being a somewhat scarce breed. It was one of the most interesting classes seen for some time past.

The *Turkeys*, though few, were very good. The *Ducks* were likewise good; but the *Geese*, with one exception, were all ill-matched, Greys and White ones being sent in the same pen—a feature always inadmissible.

A good collection of *Pigeons* was on the spot, but as each exhibitor of these birds provided his own pen in which to exhibit his birds, a more ill-assorted *Pigeon* show could scarcely be conceived. Some owners sent specimens in very excellent mahogany show pens, carefully French polished; others in almost every imaginable description of basket; and others, again, in baskets completely closed, so as to make the birds quite invisible to the public. It is, however, now arranged, that in future the Society shall provide the usual exhibition pens for *Pigeons*. Some of the largest *Runt Pigeons* ever yet shown in this neighbourhood, or perhaps in any other locality, were exhibited.

A lady of title exhibited in the classes for *Rabbits*, a pair of animals called "Leporines, from the Garden d'Acclimatation at Paris, stated to be by the breeder a hybrid between a hare and rabbit." We had supposed that this impression had been long since exploded. They were passed without comment of any kind.

**SPANISH.**—First, Rev. J. De L. Simmonds, Chilcombe Rectory, Winchester. Second, W. H. Walker. Highly Commended, Rev. J. De L. Simmonds. Commended, S. D. Forbes, Portsea; G. Wheeler, Southampton.

**DORRING.**—First, W. H. Walker. Second, F. Parlett, Chelmsford. Highly Commended, C. Smith, Durnford, Salisbury; T. P. Edwards, Lyndhurst, Hants; W. J. M. Pocock, Weston Manor, Micheldever. Commended, Mrs. Pettat, Ash Rectory, Micheldever, Hants.

**COCHIN-CHINA (Buff).**—First, S. Lang, jun., the Shrubbery, Redlands, Bristol. Second, W. H. Walker. Highly Commended, W. Mattiagly.

**COCHIN-CHINA (Any other variety).**—First, J. Gardiner, Bristol (White). Second, Mrs. Tayleur, Belmont, Parkstone, Poole. Commended, Mrs. H. Pigeon, Furzedown, Hythe, Southampton.

**BRAHMA POOTRA.**—First, G. Johnson, Farnham, Surrey. Second, E. Sheerman, Chelmsford. Highly Commended, E. Pigeon, Lympstone, near Exeter; J. Hinton, Hinton, near Bath. Commended, J. Fares, Childown Hall, Chertsey.

**GAME (Black and Brown-breasted Reds).**—First and Second, H. Bertram, Chale, Isle of Wight (Black Reds). Highly Commended, W. W. Pyne, South Lancing, Sussex (Brown Reds).

**GAME (Any other variety).**—First, W. W. Pyne, South Lancing, Sussex (Duckwing). Second, Mrs. Iremonger, Goodworth, Clatford, Andover (Cheeshire Piles). Commended, Rev. T. L. Iremonger, Goodworth, Clatford, Andover (Duckwing); W. W. Pyne (Duckwing).

**HAMBURGH (Silver and Gold-pencilled).**—First, F. Pittis, jun., Newport, Isle of Wight (Gold-pencilled). Second, F. Pittis, sen. (Gold-pencilled). Highly Commended, G. Edgar, the Terrace, Lancing, Sussex (Golden-pencilled). Commended, T. J. Salmarsb, Chelmsford (Silver-pencilled).

**HAMBURGH (Silver and Gold-spangled).**—First, Mrs. Pettat, Ash Rectory, Micheldever, Hants (Silver). Second, W. Hughes, jun., Highgate, near London (Gold). Highly Commended, W. Miller, Sherborne, Dorset (Silver); Mrs. Pettat (Silver). Commended, W. Hughes, jun. (Gold).

**POLAND.**—First and Second, T. P. Edwards, Lyndhurst, Hants. Commended, R. J. Wright, Weston, Southampton.

**ANY OTHER VARIETY EXCEPT BANTAMS.**—First, Master Cummings, Bishopstoke, Hants (*Crève Cœur*). Second, E. Pigeon, Lympstone, near Exeter (*La Flèche*). Highly Commended, C. Coles, Fareham, Hants (Blue *Andalusian* Spanish); Sir J. R. Carnac, Bart., Herdlo Clyffe, Lymington (Welch Smoky). A. Yates, Bishop Sutton, Alresford, Hants (between the pure Indian *Jungle* cock and *Golden Bantam*); Mrs. J. Pares, Childown Hall, Chertsey (Silkies); J. Hinton, Hinton, near Bath (Malays). Commended, Mrs. Brandon, Chilworth, Southampton (*Crève Cœur*).

**BANTAMS (Any variety).**—First, O. Nicholson, Landport (File Game). Extra First, G. Manning, Springfield, Essex (Black Red Game) Equal Second, J. W. Kellaway, Merston, Isle of Wight (Game); W. Triggs, jun.,

Landport (Grey Duckwing Game). Highly Commended, A. M. Lewis, Martyr Worthy, Winchester; H. Appleton, Fareham, Hants (File Game); O. Nicholson (Black Red Game); W. H. Walker (Game). Commended, E. Pigeon, Lympstone, near Exeter (Japanese); A. Yates, Bishop Sutton, Alresford, Hants (Golden-laced); Miss Waddy, Affydale Rectory, Dorchester, Dorset (Chinese Negro Silky); J. W. Kellaway, Merston, Isle of Wight (Game); G. P. Perkins, Southampton; S. Ayles, Bishop's Waltham, Hants; C. Dacre, Dunbridge, Hants.

**DUCKS.**—First, J. Adam, Fareham, Hants (Rouen). Second, Mrs. H. Pigeon, Furzedown, Hythe, Southampton (Rouen). Commended, W. Walter, Winchester (Aylesbury); A. Yates, Bishop Sutton, Alresford, Hants (White Call).

**GESE.**—First, Lady M. Macdonald, Woolmer, Liphook, Hants. Second, withheld.

**TURKEYS.**—First and Second, Lady M. Macdonald, Woolmer, Liphook, Hants.

#### PIGEONS.

**POWTERS OR CROPPERS.**—First, G. S. Sainsbury, Devizes. Second, H. Yardley, Market Hall, Birmingham.

**TUMBLEES.**—First, H. Hoare, Brownlow, Bitterne, Southampton (White Bald-headed). Second, withheld.

**BURNS.**—First, A. Yates, Alresford, Hants (Black). Second, H. Yardley, Birmingham. Highly Commended, E. Pigeon, Lympstone, near Exeter; A. Yates (Red).

**JACOBS.**—First, H. Yardley, Birmingham. Second, H. Simpson, jun., Whitby.

**FANTAILS.**—First, H. Yardley, Birmingham. Second, G. P. Perkins, Southampton.

**THUMPTERS.**—First, Master H. Pigeon, Furzedown, Hythe, Southampton (White). Second, H. Simpson, jun., Whitby. Commended, A. Coleman, Cardiff.

**OWLS.**—First, H. Yardley, Birmingham. Second, G. C. Merton, Bishopstow, Warminster.

**TURBITS.**—First, H. Yardley, Birmingham. Second, C. Beauclerk, Southampton (Yellow).

**CARRIERS.**—First and Second, S. Harding, Fareham. Highly Commended, A. Yates, Alresford, Hants (Dun); H. Yardley, Birmingham; S. Harding.

**NUNS.**—First, G. Hill, Winchester. Second, H. Yardley, Birmingham.

**ANY OTHER DISTINCT VARIETY.**—First, G. P. Perkins, Southampton (Archangels). Second, F. Pittis, jun., Newport, Isle of Wight (Maggies). Highly Commended, E. Pigeon, Lympstone, near Exeter (Bunts); Mrs. H. Pigeon, Furzedown, Hythe, Southampton (Yellow Maggies); H. C. Dear, Millbrook, Southampton (Smurles, or Antwerp Carriers); G. P. Perkins (Maggies); H. Yardley, Birmingham (Labores).

**EXTRA STOCK.**—Highly Commended, E. Pigeon, Lympstone, near Exeter (Blue Runt and Mottled Runt); C. Beauclerk, Southampton (Black Beards, Black Bald Pates, and Blue Bald Pates).

#### RABBITS.

**FOR LONGEST EARS.**—First, G. Hill, Winchester (Blue and White Doe) Second, M. M. Beadon, Creech Barrow, Taunton (Patagonian Doe).

**FOR SELF-COLOUR.**—First, G. Hill, Winchester (Sooty Fawn Doe). Second, G. Maskell, Newtown, Southampton (Doe). Commended, W. Bishop, Dorchester (Brown Doe).

**FOR WEIGHT.**—First, H. Yardley, Birmingham. Second, G. Green, Southampton (Brown and White Doe). Commended, J. W. H. Pomeroy, Southampton (Fawn Buck and White and Grey Doe).

**FOR VARIETY TO INCLUDE ALL POINTS.**—First, J. Parr, Southampton (Grey and White Buck). Second, G. Hill, Winchester (Black and White Buck).

**FOR FOREIGN.**—First and Second, M. M. Beadon, Creech Barrow, Taunton (Himalayan Buck and Doe).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, officiated as the Arbitrator for both the Poultry and Pigeons.

In the portion of the Southampton Exhibition devoted to the British and Foreign Birds, were some extraordinarily beautiful and unique specimens with the most brilliant plumage, and in robust health, including Golden, Silver, Versicolor, White, and common Pheasants. The Norwich Canaries were well represented, and altogether good birds; the Belgian classes were not so numerously filled as in former years. There were also exhibited a pure white Blackbird in perfect plumage, and a Song Thrush curiously pied throughout with white. Excellent living specimens of the Ivy Owl, Buzzard, Kittiwake Gulls, Storks, Eagle Owls, &c., formed a most interesting collection. Some large cases of stuffed Birds of Paradise of various species, and Parrots of great variety, all tended to attract the eyes of visitors; and the Committee were unceasingly anxious to do all they possibly could for the satisfaction of their supporters.

#### PHEASANTS.

**GOLD AND SILVER PHEASANTS.**—First and Second, Mrs. E. Harrison, Polygon, Southampton (Silver and Gold). Very Highly Commended, A. Yates, Alresford (Gold).

**ANY OTHER VARIETY.**—First and Second, J. W. Fleming, Chilworth Manor, Southampton (between Common and Japanese, and Chinese Ring-necked). Very Highly Commended, A. Yates, Alresford, Hants (White Pheasant). Highly Commended, T. Chamberlayne, Cranby Park, Hants (cross between the Versicolor and English Pheasant). Commended, J. W. Fleming (Common English).

#### CANARIES.

**NOSSWICH (Clear Yellow).**—First, G. F. Welch, Derby. Second, W. Walter, Winchester. Very Highly Commended, G. J. Collinson, Thorpe Hamlet, Norwich. Highly Commended, W. Walter; S. Tomes, Northampton; G. Harrison, Southampton; Commended, J. Judd, Newington Butts, London.

**NOSSWICH (Clear Buff).**—First and Second, J. Burnett, Derby. Third, G. F. Welch, Derby. Very Highly Commended, W. Walter, Winchester. Highly Commended, G. J. Collinson, Norwich; W. Shenton, Gloucester; J. Judd, Newington Butts, London. Commended, G. J. Collinson; G. Moore, Northampton.



**NORWICH** (Marked or Variegated Yellow).—First, G. J. Collinsou, Norwich. Second, W. Walter, Winchester. Very Highly Commended, S. Tomes, Northampton; J. Wynn, Northampton; G. F. Welch, Derby. Highly Commended, W. Walter.

**NORWICH** (Marked or Variegated Buff).—First and Second, G. J. Collinsou, Norwich. Very Highly Commended, W. Walter; G. E. N. Rawlinson, Gloucester; J. Heath, Landport. Highly Commended, G. Moore, Northampton; J. Judd, Newington Butts, London; G. Cummings, Gloucester. Commended, W. Walter.

**NORWICH** (Crested or any other Variety).—First and Second, W. Walter, Winchester.

**BELGIAN** (Clear Yellow).—First, O. Nicholson, Landport. Second, T. Moore, Fareham. Very Highly Commended, T. Moore; J. C. Walker, Whitby.

**BELGIAN** (Clear Buff).—First, T. Moore, Fareham. Second, O. Nicholson, Landport. Very Highly Commended, O. Nicholson; W. Phillips, Basford, near Nottingham. Highly Commended, T. Moore, Commended, G. Harrison, Canterbury.

**BELGIAN** (Variegated or Marked Yellow).—First, O. Nicholson, Landport. Second, R. J. Troake, Redlands, Bristol. Very Highly Commended, O. Nicholson; C. Coles, Fareham, Hants.

**BELGIAN** (Variegated or Marked Buff).—First, O. Nicholson, Landport. Second, W. Phillips, Basford, near Nottingham. Very Highly Commended, O. Nicholson; C. Coles, Fareham, Hants.

**GERMAN OR ANY OTHER VARIETY OF CANARY EXCEPT NORWICH OR BELGIAN**.—First, J. Waller, Finsbury, London (Jouque London Fancy). Second, J. Judd, Newington Butts, London (Yellow Manchester Copy). Very Highly Commended, J. Waller (Buff London Fancy); J. C. Walker, Whitby (Yellow Cinnamon Cock). Highly Commended, Miss H. Godden, Southampton (St. Helena Canary); J. Judd (German Cock in full song); J. C. Walker, Whitby (Marked Hen). Commended, S. Jones (Buff Variegated Cinnamon); J. Judd (Manchester Copy Cock).

**LIZARD** (Golden-spangled).—First, G. Harrison, Canterbury. Second, F. W. Fairbrass, Canterbury. Very Highly Commended, F. W. Fairbrass; G. Harrison. Highly Commended, W. L. Chapman, Northampton; G. Harding, Ashton-under-Lyne. Commended, B. Pointon, Old Basford, near Nottingham.

**LIZARD** (Silver-spangled).—First, W. Phillips, Old Basford, near Nottingham. Second, J. Waller, Finsbury, London. Very Highly Commended, W. Walter, Winchester. Highly Commended, Rev. V. Ward, Canterbury; B. Pointon, Old Basford, near Nottingham.

**JOUQUE GOLDFINCH MULE**.—First and Second, H. Ashton, Manchester.

**MEALY GOLDFINCH MULE**.—First, H. Ashton, Manchester. Second, B. Pointon. Very Highly Commended, H. Simpson, Whitby; H. Ashton. Highly Commended, G. Harding; J. Judd. Commended, W. Walter.

**LINNET MULE**.—First, J. Lingard, Ashton-under-Lyne. Second, G. Butler, Wallington, Fareham.

**ANY OTHER VARIETY OF CANARY MULES**.—First, W. Walter, Winchester (Siskin Mule Cock). Second, P. Nicholson, Landport (Greenfinch and Canary Cock).

**GROUP OF TEN NORWICH CANARIES**.—First, W. Walter, Winchester. Second, G. Moore, Northampton.

**GROUP OF TEN BELGIAN CANARIES**.—First, T. Moore, Fareham. Second, O. Nicholson, Landport.

#### BRITISH BIRDS.

**BULLFINCH**.—Prize, H. Vine, East Cowes, Isle of Wight. Very Highly Commended, A. W. Booker, Allerton, Liverpool. Commended, C. Carver, Landport.

**GOLDFINCH**.—Prize, G. Butler, Wallington, Fareham. Very Highly Commended, Capt. H. C. Fisher, the Castle, Stroud, Gloucester; G. Harding, Ashton-under-Lyne. Highly Commended, Miss Watson, Fair Oak Park, Bishopstoke, Hants; R. J. Troake, Redlands, Bristol; J. Judd, Newington Butts, London. Commended, Miss G. Lacy.

**LINNET**.—Prize, G. Cummings, Gloucester. Highly Commended, S. Simmonds.

**SKYLARK**.—Prize, W. Walter, Winchester. Highly Commended, J. Judd, Newington Butts, London.

**WOODLARK**.—Prize, W. Walter, Winchester. Highly Commended, M. Batchelor, Southampton. Commended, R. Noyce, Southampton.

**ROBIN**.—Second, W. Walter, Winchester.

**BLACKBIRD**.—First, H. Vine, East Cowes, Isle of Wight. Second, T. Bourne, Shirley, Southampton. Very Highly Commended, H. Kelson, Southampton.

**SONG THRUSH**.—First, H. Vine, East Cowes, Isle of Wight. Second, R. Ridgley, Swathling, Southampton.

**STARLING**.—Prize, H. Vine, East Cowes, Isle of Wight.

**JAY**.—Prize, C. Carver, Landport. Commended, C. Dacre, Dunbridge, Hants.

**MAGPIE**.—Second, W. Walter, Winchester.

**SISKIN OR ABERDEVINE**.—Prize, J. Judd, Newington Butts, London. Very Highly Commended, J. Judd. Highly Commended, R. Bird, Southampton; W. Walter.

**ANY OTHER VARIETY**.—Prize, Master E. De L. Simmonds, Chilcomb Rectory, Winchester (Thrush, nestling). Highly Commended, R. J. Troake, Redlands, Bristol (Mule between Greenfinch and Goldfinch); O. Nicholson, Landport (White-crested Brown Linnet). Commended, R. Ridgley (Tawny Owl).

#### FOREIGN BIRDS.

**COCKATOO** (Leadbeater or Rose-crested).—Prize, J. Judd, Newington Butts, London. Highly Commended, F. Wheeler, Portsea.

**GREY PARROTS**.—First, W. H. Squibb, Southampton. Second, Mrs. H. H. Gibbs, Southampton.

**GREEN PARROT**.—First, Mr. A. W. Brooker, Allerton, Liverpool. Second, H. Cuff, Newtown, Southampton. Commended, H. Scrivener, Bitterne, Southampton.

**ANY OTHER VARIETY OF PARROTS, EXCEPT GREY OR GREEN**.—Prize, W. Walter, Winchester (Borrow Eulien).

**ROSELLE PAROQUETS**.—Prize, H. Scrivener, Bitterne, Southampton. Highly Commended, W. Walter, Winchester.

**PENNANT LORY**.—Prize, C. Dunn, Fareham, Hants.

**LOVE BIRDS** (in Pairs).—Prize, J. Judd, Newington Butts, London. Very Highly Commended, Miss Wheeler, Southampton. Highly Commended, W. Walter, Winchester.

**AUSTRALIAN GRASS PAROQUETS** (in Pairs).—Prize, J. Judd, Newington Butts, London. Very Highly Commended, W. Walter, Winchester.

**COCKATEALS** (in Pairs).—Prize, J. Judd. Very Highly Commended, Mrs. E. Harrison, Southampton.

**JAVA SPARROWS**.—Prize, C. T. Bell, Southampton. Very Highly Commended, W. Walter, Winchester.

**NONPAREILS**.—Prize, C. T. Bell, Southampton.

**WIDAH BIRD**.—Prize, Mrs. E. Harrison, Southampton.

**CARDINALS**.—Prize, Mrs. W. Lacy, Southampton.

**POPPES**.—Prize, C. T. Bell, Southampton.

**BISHOPS**.—Prize, J. Judd, Newington Butts, London.

**ANY OTHER VARIETY OF WAXBELLS** (in Pairs).—Prize, W. Walter, Winchester (St. Helena).

**ANY OTHER VARIETY OF FOREIGN BIRDS**.—First, W. Walter (Madagascar Bird). Second, G. Watts, Southampton (Turon Paroquet, from Western Australia).

A. Willmore, Esq., and W. Goodwin, Esq., of London, officiated as Arbitrators in the above classes.

#### FOREST FOWLS.

I FIND, by reference to the Journal, that Mr. Warner has won the second prize at an exhibition with the Forest Fowl. Your reporter has given them a new name—"Dwarf Black Hamburgs." Mr. Warner purchased adult birds and chickens of me for the express purpose of rearing young Pheasants. I keep them myself for rearing chickens, and the blue birds for the hackle feathers for fishing-purposes. Their habits are quite sufficient to prove the writer has made a mistake, it being well known that all pure breeds of Hamburgs will not incubate. There is not any strain of the Hamburg breed in the Forest Fowl; they derive their name in the usual way, the original stock being taken from the borders of the forest of Exmoor.—H. LEWORTHY.

#### TAKEN TO BLACK BANTAMS.

TAKING them for all in all, after having kept nearly every variety of fowls, I do not think a more useful and ornamental or less destructive breed of fowls can be allowed to take their liberty as insect-foragers in a garden. Our poultry space here is circumscribed, and the quantity we keep the mere shadow of that which we had when we lived in Shropshire; still the yards here became so tainted, that we were fain to desist from the pursuit, and in two years afterwards we found ourselves overrun with woodlice, earwigs, and innumerable creeping things, notwithstanding a constant warfare against them. The rector was one of the first who was presented with some of Sir John Sebright's Bantams, after that breed had been originated, and we kept steadily to them for nearly twenty years, till from high keeping, &c., they became quite as fine as the generality of fowls then to be met with in a farm-yard; and now our minds again began to dwell upon the sort, but they had become much degenerated. Accident came to our aid by casting us on the Isle of Wight, where we were offered some Black Bantams, and we closed with the offer at once. They had been bred by Major Verner, and by him presented to a young lady, to become a constant source of vexation to her and her mother, on account of a lady who lived next door to them at Ryde, repeatedly complaining of the effect which Chanticleer's proclaiming the dawn had on her nerves. The quality of the birds was as good as it could be, but to provide against degeneration Mr. Bailly was commissioned to procure a hen that he could strictly recommend; and when the rector called upon him in Mount Street, Lord Bolingbroke happened to be there making a purchase of some Rabbits, to turn out on his estate, and he added his approval with the rector's to Mr. Bailly's selection.

From three such good judges the result is quite satisfactory. We do not aim at diminutiveness, but hatch early in June in order that the chicks may meet with no check, and attain their largest size. We keep those that grow the largest, although in this class of Bantams those who prefer them may easily choose small birds, the biputian appearing in most of the broods. We have a minute cockerel rejoicing in the name of "Dod." He was flattened like a pancake when hatched, and I threw him aside as being dead; but a female hand rescued the castaway and placed him in the foot of a woollen sock upon a warm hob. Soon lively chirpings made us aware of his vitality. "Dod" grew up to become a pet; he perches upon my shoulder at tea time and at breakfast, and makes complainings in my ear unless I frequently supply him with bits of toast or bread and butter. "Dod" is not to be parted with; I have a diminutive pullet for his harem. His big brothers are becoming very pugnacious.

I have an ulterior object in thus gossiping: I am a bee-keeper as well as a poultry-keeper, and can well understand the feeling of annoyance that your correspondent Mr. Edw. Cadogan, at page 245, experienced when he returned home after a three



months' absence, and found his improved cottage hives infested with thousands of earwigs. Allow a crop of these vermin to remain on the top of a hive for a week only, and notice how fat and plump they will have become as they scamper away on being disturbed. Certain enough it is that the bee grubs and the honey are the cause of that *embonpoint*, and it was one chief cause of our taking to Bantams again; for notwithstanding all the precautions which I have frequently detailed in these pages as having been taken against the entry of insects into my hives, earwigs are scarcely to be baulked; but pray do not daub any dirty, damp, and cracky mortar about, to try by that means to eradicate them; it would make bad worse. By Black Bantams earwigs are the most sought for of morsels, and during this season, which has been a peculiarly favourable one for these insects, no woodlice or earwigs have had a chance of congregating with me. Along with them spiders, beetles, caterpillars, slugs, small snails, ants and their eggs, &c., have all been devoured by the untiring searchers for insects, and there is no variety of fowl that does the scratching more gently, or works less harm amongst flowers and plants. My system of netting over strawberries, gooseberries, &c., is so simple and secure that I am never concerned about the birds interfering with them. When I wig my hives—viz., take the pans and covers off the supers for the purpose of whisking away with a goose's wing insects that may be concealed there, the fowls instinctively know all about it, and are generally there on the look out. If they should not be, "Boys, boys!" is sure to bring them, and woe betide the marauders; but these fowls never touch a bee. I would earnestly advise Mr. Cadogan to take to Black Bantams. He informs us that his garden is a large one. Then what can be better for his bees than borage planted wherever the room can be spared? What a perpetuity of bloom it gives, and what a quantity of seed it will produce! There is no food that Black Bantams are more fond of. They will nearly subsist upon it, and search it out from the beds as zealously as the bees do the honey from the blossoms. I rather like the borage as a weed, for it is precocious, and compels one to be constantly stirring the ground to do away with it where it is not wanted, and so every other weed shares the same fate before it can well be seen, still less produce seed, and the soil is benefited. Then what capital and prolonged layers, and excellent sitters, without being inconveniently so, Black Bantams are. Besides, a couple, or even three of them, when well fed, properly cooked, and placed on a dish at one end of a dining table, with a pig's cheek *vis-à-vis*, might satisfy a more gastronomical individual than—UPWARDS AND ONWARDS.

### WOOD FOR HIVES.

I AM inclined to indorse the opinion of "A DEVONSHIRE BEE-KEEPER" relative to wood hives being best made from yellow pine; that known as St. John's is what ought to be used. Although there are some sorts of bleached pine little inferior to some sorts of yellow, yet I always consider that wood approaching in character to that of the pitch pine ought to be avoided in making hives, being by far too close in the pores, and too good a conductor of heat. Many hives are ruined by too close coverings, or rather covering them with too close a material. By covering wood hives with any kind of oil-cloth, slates, or slabs of stone—that is, when there is little else than these materials close to the hive, the steam that is generated and carried up through the pores of the wood, is condensed upon these coverings and falls back upon the hive, where it produces a most injurious dampness. Whenever any of these coverings are used there ought always to be a sufficient quantity of dried grass interposed between the hive and its cover to absorb all moisture; but the best of all hive covers where there is no house are those which stand free of the hive, with ventilation at top. A word, then, as to ventilation. It never should be given with a draught. A very good and safe plan is to open any orifices that exist in the crown, and place on the top some cleaned straw, thus imitating as much as possible a thatched-roofed cow-house, or to fill an empty box with clean straw and place it on the top, after drawing slides, or unstopping whatever openings there may be.—A LANARKSHIRE BEE-KEEPER.

**CURING HENS OF SITTING.**—Mr. Duren, states in the *New England Farmer*, that he cures his hens of sitting by shutting

\* That is, that from which the turpentine has been extracted.

them in a tub with an inch or two of water on the bottom, during the day. He puts them on the roost at night, and if not cured, treats them to the water remedy for another day, and they will be glad to stand on their feet.

### THE DISEASES OF BEES.

I OWE an apology to "A. W.," for not having made an earlier response to the appeal which he made in "our Journal," for information on the subject of dysentery among bees, so long ago as the 11th of July last, and which he has repeated at page 451. My reason for keeping silence on the point was, that of dysentery proper I have seen but very little, and can, therefore, offer no information derived from my own experience of the malady. As, however, I happen to be able to refer to what the great German apiarist, Dzierzon, has written on the subject, I deem it worth while to transcribe his opinions regarding it, adding thereto the results of my own experience in respect of other diseases to which our little favourites are unfortunately liable.

"DYSENTERY (says Dzierzon), which frequently occurs towards the end of winter, is certainly an evil in bee-keeping in countries where the winters are long and severe. It consists in the inability of bees to retain their faeces beyond a certain time and measure; but it is not a proper disease because the evil is at an end as soon as they are able to empty themselves. The causes of dysentery are as follows:—Long and severe winters, unwholesome honey, or honey carried in or given too late in the season, and which, therefore, mostly remains unsealed, coldness of the hive and combs, frequent disturbances, superabundant moisture or extreme drought, premature breeding, or, in short, any circumstance which causes an unwonted consumption of food, and by which bees are deprived of the opportunity of voiding in the open air the faeces which then accumulate so rapidly. But, as under these circumstances, the bodies of many become so swollen that they are unable to fly, and can at most drag themselves to the entrance of the hive, the evil ultimately degenerates into a disease of which numbers perish both inside and outside the hive. Nay, the malady sometimes appears to become actually contagious, since it has been found that when a stock which had been reduced by dysentery was strengthened by the addition of healthy bees, the mortality continued until it became as weak as it was before. The queen alone is exempt from this disease, owing to her consuming only the purest honey and pollen, and because her excrement, consisting merely of an opaque watery fluid, is naturally voided within the hive. She, therefore, remains in good health even after the great majority of her workers have succumbed to the malady.

"He, therefore, who would bring his stocks clean and healthy through the winter, must avoid the above-mentioned causes of disease as far as lies in his power, and should keep only such stocks as are capable of wintering well."

Bees evidently suffer greatly from dysentery during the severe and protracted winters of Germany, and when this is the case, Dzierzon advises that they be brought into a warm room with but one window, and that facing the south. The hive being placed in the sun, a few feet from the window, its inhabitants are set in motion by a little food either inserted within the hive or injected into it. As the bees take wing and fly towards the window, many empty themselves, and the rest will do so when they reach and rest on the window-sill. Here the brown faeces must be sponged off as rapidly as they are ejected, lest the bees soil themselves with them, and when all have had the required opportunity they will joyfully re-enter their hive if the entrance be brought close to them.

It is more than probable that my bees owe their immunity from the ravages of dysentery in a great measure to the mildness of the climate of Devon. Fine and balmy days are generally so frequent late in the autumn and in the early spring, whilst they are not unknown during even the depth of winter, that it is rare indeed for bees to be confined to their hives during many weeks without the opportunity of recreating themselves on the wing in the open air. Added to this, flowers of some kind are always in bloom in our gardens, so that fresh pollen is within their reach whenever the weather and their own inclinations impel them to seek for it. I may, indeed, say with truth that there is not a single month in the year during which I have not at some time or other seen pollen-laden bees entering some of my hives.

My information, therefore, on the subject of dysentery, its



eanes, and its effects upon bees, being merely secondhand, I hope other correspondents who may unfortunately have had personal experiences of its ravages, will respond to the inquiry of "A. W." In a future Number I intend adverting to other diseases to which our little favourites are liable, and which, I regret to say, have come under my direct observation as—  
A DEVONSHIRE BEE-KEEPER.

(To be continued.)

## THE REV. HENRY WARD BEECHER'S FARM.

THIS farm is at Peekskill, West Chester county, New York, about two miles from the railroad station. It contains forty acres of excellent land, and is pleasantly situated with a southern aspect, commanding an extensive and most charming panoramic view of the Hudson river, the high and surrounding mountains, such as no one knows better how to appreciate and enjoy than the rural-loving owner himself.

When Mr. Beecher purchased the place, a few years ago, there was scarcely a fruit tree of any value upon it. Now there are 2500 choice fruit trees, most of them already beginning to bear. He has erected a large model barn, but as yet occupies the humble cottage he found upon the place, though he has made important additions and improvements.

Mr. Beecher is converting the place, to a great extent, excepting an extensive lawn in front of the house, into a fruit and vegetable farm. He has nearly an acre filled with Delaware and Iowa Grape Vines; and as the trees are yet small, he has raised among them this year between seven and eight hundred barrels of Onions.

Around his little cottage Flora reigns in all her glory. There is the greatest profusion of all the choicest flowers, and the whole air is redolent with their sweet and mingled perfumes.

The barn and out-buildings are well stocked with fine horses, oxen, choice breeding cows, swine, fowls, &c. This autumn Mr. Beecher has been making many improvements in the drainage of his lands and the avenue to his house, all adding greatly to the value and attractiveness of the place.

The influence of a farm conducted like this, though all farmers may not be able to adopt all the improvements that have been there made, must be of the greatest benefit to the agricultural interest of any community; and Mr. Beecher is really a benefactor to all the farming as well as religious interests of the country.—(Boston Traveller.)

## MILES'S PATENT VERMIN TRAPS.

THESE improved patent traps for catching foxes, martens, polecats, and other animals, either large or small, may be so arranged as to catch them alive and without injury, or so as to kill them instantly. The improvements consist principally in the parts used in setting and releasing the trap, which are set at an inclination from the ground. The setting parts consist of three pieces of wood or other material, two of which are put together and used in the form of a strut to support the trap when set; the third piece forms a clip to keep the strut-pieces in position, as also a support for the bait.

If the animal is to be killed, the trap is formed of a large flag-stone, or other weighty or weighted surface, which, on falling, will produce immediate death; on the other hand if the animal is to be caught alive, the trap is made of an inverted boxlike form, and furnished with two or more feet at the corners, or otherwise, so that the trap may rest thereon in falling, and obviate the possibility of cruelty, or injury to the animal's tail. Where the animals are to be caught alive, it is necessary to put the trap on a flat stone or other hard surface, to prevent burrowing. When it is desired to remove animals alive in the trap, it is supplied with a hinged flap on one side; this flap or lid is used, when inverted, as the bottom of the trap that is to rest on the ground. Being lined with iron, when the animal is caught, the trap may be locked or otherwise fastened, and the animal so secured and removed with it.

## OUR LETTER BOX.

A CHAMPION NEEDED (Cock of the Walk).—Either a Cochon or a Brahma Pouter cock ought to knock the fight out of the invading Silver-splashed Hamburg; but it depends upon courage more than weight. The Brahma Pouter may have the most of this desired quality if, as we dare to suspect, the breed has some Malay blood in it.

BANTAM'S LEGS PARALYSED (T. F.).—A blood-vessel has probably burst upon the brain, keep the bird quite quiet, away from other poultry, and feed upon soft food only. The extravasated blood sometimes is absorbed, and then, if no fresh oozing of blood occurs, the bird may recover, but recovery is of rare occurrence.

HENS NOT LAYING (Hugh).—This is the time of year when hens usually cease laying, in fact, only pullets usually lay in the winter months. A little ale and bread may be given daily, but no feeding will make old hens lay now. A lump of camphor is all that is needed to be put in the water as a preventive of gapes.

LA FLÛCHE'S WHITE FACE (A. C.).—The La Flèche is a breed in which the white deaf ear is as essential as in a Hamburg. They might take prizes if all the competing pens were deficient in this particular; but a pen lacking the distinction could not be successful, against one that had it. A full-grown cock should weigh from 9 to 10 lbs., a hen from 6½ to 7½ lbs.

COCHIN CHINAS (A. C.).—The hen with a swollen abdomen would never have been useful. The fatness had caused diseased ovaries. Warded legs would not be a disqualification, but would lessen the chance of success. "A pen of fowls" is not limited to any number. A pen is the cage, and for the prizes offered is specified in the exhibition schedule how many birds; usually two or three hens and a cock must be exhibited in the class. A single bird, or two pullets, or any other number may constitute a pen. Neck hackle are the long feathers on the neck; saddle hackle are the long feathers hanging down from the back. Rats and mice eat the poultry food, but do no further harm at this season. The rats will kill young chickens. Your house is large enough for both Geese and Ducks if not numerous.

WAXY-EARED PIGEON (A Constant Subscriber).—For your Pigeon with hard waxy substance in the ear, try fomenting it with warm water, remove as much of the substance as you can, and then drop in a little sweet oil.—B. P. B.

PUMPKIN AND APPLE JAM, &c.—A Gardener's Wife will be obliged by receipts for making pumpkin jam and jelly and pies, also apple jam and jelly, and what apples are best, sour or sweet.

COOKING LEEKS.—In reply to "GEE" we would say that to cook leeks as a vegetable nothing is more easy, provided they are neither over-boiled nor under-boiled. In the one case the rich mild flavour of the leek is lost, in the other it is hard and unpleasant. In preparing the leeks, strip off one or two of the outside layers, and cut off as much of the bottom as will take away all the foundations of the rootlets. If the leek is much more than an inch in diameter, run the knife up the centre for 3 inches or so from the bottom end. If larger than that, run the knife up a little farther, or even twice, so as to quarter the lower part. According to taste, use only the white blanched part of the leek, or, as we prefer it, retain a little of the green of the top. The contrast looks so much better in the dish, and the lower part of the green head is nice and tender. Then wash carefully in cold water, in which a piece of salt is dissolved, which will bring out the smallest worm or any creeping thing that may lodge in the folds of the top. Have enough of boiling water, according to the quantity of the leeks, so that all shall be covered when slightly pressed down. Put the leeks, drained from the cold water, into the boiling water, into which you have put a small teaspoonful of the carbonate of soda, or the carbonate of potash. We prefer the former, as it softens the water and the leek, and keeps the top green. When they have boiled nicely and slowly about ten minutes, add a small tablespoonful of salt to the water. Generally in about five minutes more the leeks will be nice and soft; but one should be tried with the prongs of a fork, or evenly cutting it open. When nice and soft they are right; they must not be boiled to tatters, or rendered stringy. Turn them out into a warm colander, and slightly press the water from them. Then you may serve on toasted bread as you would do sea-kale, or merely turned out on a heated plate, and eat with a little pepper and gravy from roast beef or mutton put over them. They are also admirable when flavoured with melted butter; but for general use, cooked in this simple way, merely with a little gravy, and pepper or salt, according to taste, they make a delicious dish. They have long been a favourite dish in Wales, and form a principal ingredient in the Scotch dish Cock-a-Leekie, as also a component part in black puddings, and various stews and soups; but on these matters we do not enter. Treated merely as a dish of vegetables, as a change from various kinds of greens, the above simple mode answers well, and they will be found good all the winter, and better in the spring, if used before the seed-stalk begins to rise.

MOULDS FOR LEATHER ORNAMENTS (F. A. H.).—Our correspondent wishes to be informed where she can obtain moulds of the Pine Apple, and other fruits, for making leather ornaments.

ARGAND LAMP (D. C.).—Any one who sells lamps in Exeter, Plymouth, or other large town, will know what kind of lamp it is. Train oil or colza oil burns in it. It is one of the oldest of lamps, and is described in every encyclopedia.

TRIFOLIUM INCARNATUM (A. Apiarian).—As cultivated it comes within the definition of a biennial. It is sown in the autumn and blooms in June. Perhaps if sown very early in the spring it might bloom late in the autumn, but we have no experience on this subject.

CARDONNIEN'S INCUBATOR (J. W. W.).—The work you mention is probably a translation from the French. We never heard of such an incubator.

## LONDON MARKETS.—DECEMBER 4.

### POULTRY.

A large influx of Game has influenced the sale of poultry, which has been heavy during the past week.

	s.	d.	s.	d.		s.	d.	s.	d.	
Large Fowls.....	2	6	to	3	0	Grouse .....	1	9	2	0
Smaller do. ....	2	0	2	3	0	Partridges .....	1	4	1	6
Chickens .....	1	6	1	9	0	Hares .....	2	0	2	6
Geese .....	6	0	6	6	0	Rabbits .....	1	4	1	5
Ducks .....	2	0	2	3	0	Wild do.....	0	8	0	9
Pheasants .....	3	0	2	6	0	Pigeons .....	0	8	0	9

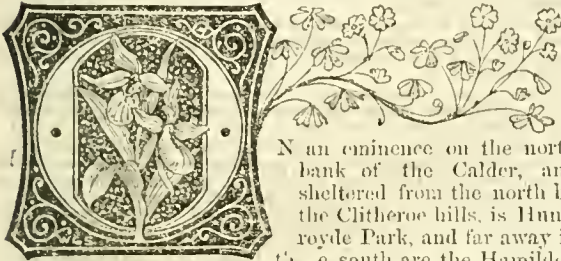
## WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 12—18, 1865.	Average Temperature near London.			Rain in last 48 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
12	TU	Erasmus Darwin born, 1732.	45.8	33.5	39.7	16	59	af 7	49	af 3	58	1	3	1	24	5 57	346
13	W	Greenhutches congregate.	45.7	33.0	39.8	21	0	8	49	3	55	2	27	1	25	5 28	347
14	TH	Prince Consort died, 1851.	46.1	33.6	39.9	19	1	8	49	3	58	3	54	1	26	5 0	348
15	F	Tufted Pocher comes.	46.2	34.7	40.4	16	2	8	49	3	58	4	27	2	27	4 53	349
16	S	Chaffhutches congregate.	45.7	34.3	40.0	13	3	8	49	3	58	5	4	3	28	4 1	350
17	SCN	3 SUNDAY IN ADVENT.	46.0	34.8	39.9	18	4	8	49	3	57	6	48	3	29	3 32	351
18	M	Philip Miller died, 1771.	44.9	32.8	38.9	19	4	8	49	3	47	7	39	4	30	3 2	352

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 45.9°; and its night temperature 33.7°. The greatest heat was 63°, on the 12th, 1841; and the lowest cold, 7°, on the 16th, 1853. The greatest fall of rain was 1.24 inch.

## HUNTROYDE PARK.

THE SEAT OF CAPT. LE GENDRE PAGE STARKIE.



N an eminence on the north bank of the Calder, and sheltered from the north by the Clitheroe hills, is Huntroyde Park, and far away in the south are the Hamilton

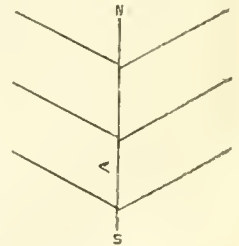
hills, which appear as if enveloped in the clouds. The scenery is grand in the extreme, and although the busy hum of the cotton mills can be heard after walking a mile or so across the park, scarcely a chimney is visible from the place. It is completely shut out from the busy valley below, through which passes the Calder, by a second series of hills. The Hall, as seen from the Lancashire and Yorkshire Railway, between the Blackburn and Hopton stations, presents a noble appearance. Behind it is an immense forest of trees; these also extend to a great distance right and left of it, and with their pleasing autumnal tints give to the scene at once a pleasing and impressive effect. The crest of the hill which completely hides the busy town of Padiham, is also covered with trees, but the ground on the opposite side of the valley over which the above-named railway passes being the highest, a complete view of the Hall is obtained, and from thence it appears nestled in the bosom of the wood, giving one at once an idea of comfort, rest, and sweet repose. The place has been for centuries held by the Starkie family, and so great has been their veneration for trees, that the woodman's axe has been seldom heard, although thousands and tens of thousands of these noble trees have been for years past falling to decay. With a judicious use of the axe a good fortune might have been made, and the scenery much improved.

The magnificent series of hills rising one above the other towards the north, present a very pleasing panorama. One of the highest of these, called Pendle Hill, seems to lift its head above the clouds. This hill is 1803 feet above the level of the sea, and from its summit the views are very extensive. On the 18th of August, 1669, this elevation discharged such an immense body of water from near its top, as to do great damage to the neighbouring country. It is described as having been a mighty torrent, gushing out in such quantities, and so suddenly, that it made a breast a yard high, and continued running for about two hours. The whole of the hills to the north seem charged with water, so that in the very driest season Huntroyde is well supplied with that essential to the success of garden crops.

Nature has done much for Huntroyde, but for centuries nothing has been done to assist Nature in beautifying the gardens and grounds, the previous owners not having a desire for gardens or gardening, for the wide expanse of

forest was their ideal of a garden. Its present liberal owner having placed its management in my hands, it will be my pleasing duty to devote the whole of my energy and abilities to the task of improving this beautiful place. It affords much scope for improvement, and Nature has provided everything the landscape gardener could wish for. As a description of the works as they are carried out may be interesting to the readers of *THE JOURNAL OF HORTICULTURE*, I shall describe them as time will permit, something after the manner of my friend and coadjutor, Mr. Fish's "Doings of the Last Week," and as it will be necessary to begin at the very beginning, my first paper will be descriptive of the all-important operation of draining.

Draining should be the first care of the gardener on entering on the duties of a place of the above description, and this should be borne in mind by every one about to commence the formation of a new garden, or the remodelling of an old one. Let your first care be to ascertain the condition of the soil you have to contend with. If the ground has been drained see that the drains are in an efficient state, and whether they are low enough; if they are not, lose no time in remedying the evil, for drains are worse than useless in most soils, if they are put in too shallow. There is also a right and a wrong way of putting them in; for instance, if a piece of ground slope to the south the main drains should be cut in that direction. I have mine dug to a depth of 4 feet 6 inches, or 5 feet, according to the soil, and from 60 to 80 yards apart, using for these drains three-inch tiles; between these main or carriage drains I have the smaller four-foot drains cut obliquely, as in the accompanying diagram, in which a represents the main drain running north and south, the smaller drains falling into it on each side. These are put in at intervals of 24 or 30 feet, according to the state of the soil, using two-inch tiles.



Care should be taken in digging the drains that they be not made unnecessarily large; there should only be just room for a man to work in them, and they must be nicely tapered down from the surface. The opening for a four-foot drain should never be more than 14 or 16 inches wide at the ground level, and it should gradually taper downwards to 3 inches, or so as just to afford room enough for the pipe. On the latter, in this description of drain I place 6 or 8 inches of broken stones; the clay should be put on next, so as to nearly fill up the drain, unless it is in the kitchen garden, or near the fruit-tree borders, in which cases no more should be put in than is necessary to settle down to the proper clay level or bed. The soil that is put into the drain should not be trodden very solid at first, but be allowed to settle gradually. It is necessary to visit the drainers frequently to see that they are keeping the proper depth, and allowing a proper fall. They are sometimes men who are rather greedy of gain, and not over-particular as to whether there is a proper fall for the water or



not so long as they can get paid for a certain number of rods per day. I must, however, say that the Lancashire drainers are a very fair-working set of men, they appear anxious to earn a fair day's wages, and to give satisfaction to their employers.

I found the case different in Cheshire three or four years ago, when I drained the gardens at Oulton Park. Either from ignorance or some other cause the men would not put the pipes in the proper way, and if I left them for ever so short a time when I came back something was wrong, so at last I was obliged to jump into the drain and lay the pipes myself. It was only by these means that I was able to get the gardens drained thoroughly. I stuck to the drainers three weeks, until I had the whole of the kitchen gardens inside the walls, four acres in extent, drained to my entire satisfaction. As the foundations of the walls were very deep, I found it necessary to go below them with my drains; I, therefore, had to put in drains, 6 feet deep, all round by the walls, and as I had a large quantity of old brickbats that had come out of some walls that had been pulled down, I had 18 inches of these laid on the pipes, and in such a manner that no two pieces should lie flat together—i. e., there was a space of an inch or more left between all the pieces. These, as well as the pipes, I laid myself for a length of drains altogether amounting to nearly a thousand yards. I must say I was heartily glad when the job was finished, but the results I obtained well repaid me for the sore hands and throat which I had from the job. It was wonderful to see the improvement the draining made in the growth of everything that was planted in the gardens. The fruit trees soon lost their mossy appearance, and instead of their, in some cases, making long and sappy shoots, and in others dying prematurely, they have been steadily improving in appearance in every way, and are now perfect models, being literally covered with bloom-buds.

The open quarters of the gardens at Oulton were drained with ordinary four-foot drains. During the process of digging our new drains, we came upon drains almost innumerable that had been put in perhaps centuries ago, and others of more recent date, but the only way in which they acted was to take the water from one spot where it was in abundance to another where it was not so. This was, of course, causing destruction right and left. As it had been the practice to dig deep holes for the fruit trees and to fill up partly with new loam and manure, these holes acted as basins for the water, and all the lower roots were decayed. The trees, had, therefore, to be constantly expending their strength in making fresh roots at the cellar or base, to make up for the loss of those which the water was killing, as it rose higher and higher in winter in proportion to the wetness of the season.

The whole of the trees, small and large, were lifted out of this "Slough of Despond," after the draining was finished, placed on the natural surface, a mound made round them, and to shield them from the drying winds of spring and the heat of summer, a thick coat of furze was placed all over the ground about the trees. There is nothing that will encourage the small fibrous roots to the surface so much as this when it decays, but one evil must be guarded against—the furze will be sure to encourage a large stock of mice, and if they are not well looked after by constantly trapping, they will very soon peel all the bark off the trees as high up the stems as these are covered. Two years ago I was afraid I should have lost some very fine trees in this way. As soon as I discovered the mischief that had been done, I had the part of the stems that had been injured painted over with a very thin coat of gas tar. This was not palatable to them, and, besides, by using the traps freely the depredators were caught, so that I afterwards had the happiness to see the trees grow as freely as if nothing had happened to them. Fortunately the inner bark was not injured, otherwise the trees must have been killed.

The system of removing fruit trees, the proper time to do so, &c., must form the subject of another paper. The whole of the trees just mentioned were replanted early in October when the leaves were quite green, and before the sap had begun to descend. —J. WILLS, *Huntroyle*.

### HIBISCUS COOPERI CULTURE.

This is one of the most beautiful of our ornamental stove plants; but it is rarely seen in good condition. Many refuse to grow it, on the ground that the foliage becomes quite green, losing every vestige of its beautiful pink variegation.

The mode by which I manage to have the foliage beautifully

coloured is to keep the plant rather stunted, closely stopped, and near the glass. I find that if I only allow the shoots to grow a few inches the leaves begin to become green, I therefore chiefly attribute my success in respect to their colouring to close stopping. I never allow the shoots to grow more than 3 inches long before stopping, and the lateral shoots which are produced on these are of a most beautiful pink and white. All who have seen my plant say that they have never met with one so finely variegated. I know of no plant better adapted than *Hibiscus Cooperi* either for exhibition or for the decoration of the dwelling-house on special occasions, it being so distinct from any other.

The soil which I use is peat, loam, and sand. The plant may be kept with advantage in the same pot for a long time, taking care not to allow it to suffer from want of water. Now that my plant has become very much potbound I give it a little weak manure water occasionally, otherwise it would not grow after having been so closely stopped. This *Hibiscus* may be grown large enough for any purpose in a 12-inch pot; my plant is in a nine-inch one, as I only want small plants. I hope that those who hold it in but little estimation may be induced to give it another trial, and if attention be paid to stopping I think that they will be pleased with it.—CHAS. EDWARDS.

### METEOROLOGY OF FRUIT-HOUSES.

SINCE I last wrote I have procured Dr. Bennet's third edition. I will therefore give you again the temperatures of the winter months at Mentone.

	Oct.	Nov.	Dec.	Jan.	Feb.	March	April.	May.
Maximum ....	67.3	60.8	56.1	55	54	57.2	66.9	68.9
Minimum ....	55.9	48	44.1	43	40.1	40.5	55.4	66.7

These are for the winter of 1864-65. The first night on which the thermometer went below 46° was December 24th, the last was April 1st; during these 122 days it was only thirty-one times below 40°, and only twice as low as 33°. With this temperature at Mentone the deciduous trees lose their leaves in December, and such cold nights are sufficient to retain them in a dormant state till April. Now let us turn to "The Orchard-House," and see what Mr. Rivers recommends under the head of "Forcing Orchard-House." "I commenced forcing Peaches and Apricots in this house about the middle of January." "In March the fruit was set and swelling fast." "In severe weather in February the fire was kept up with more care, just to keep the thermometer up to 35°." Again: "About the middle of January forcing may be commenced, the temperature by day kept up to 50° by fire heat, with sun to 60° or 70° for a short time; the night temperature may go down to 40°." "When the blossom-buds are fully open, which will be in about twelve days . . . if the weather be keen and frosty air must still be admitted, and a brisker fire kept up, so that the temperature may not be lower than 50° by day and 35° by night." "As soon as the fruit is set and begins to swell, a day temperature of 60°, and a night of 40° to 45°, should be kept up, and when sunny abundance of air may be given, for the thermometer will then rise to 80° and 90°." I think there must be some mistake about these temperatures; but be that as it may, he certainly says that, in spite of abundant ventilation, the sun at this early period of the year is able to raise the temperature from 60° to 80° or 90°. This is more than I supposed, and verifies the remark, that in the south of England, these large orchard-houses have the summer climate of Toulouse. May I not be permitted to ask Mr. Rivers if it is not more dangerous to submit trees that have only just set their fruit to a variation of temperature of from 40° to 90° than, in the case of trees going to rest, of from 45° to 90°?

Great care should be taken not to mix up questions of meteorology and geology with the relative powers of hothouses. I will give two instances that have come under my notice this year. Grapes have been ripened in the open air at Chester and at Aekworth. In both these cases the Vines were grown against the south side of a house, so that not only had they all the advantages of climate, but also what was equal to a flued wall; and therefore to say that this proves a span-roofed orchard-house would be successful anywhere in Cheshire or Yorkshire I must deny, both these places being exceptional in their country.

We know that a crop of Grapes can be ripened in five months,

or it may take seven. Can any one tell me what advantage a south wall has over a narrow span-roofed house, from having taken its maxima and minima for a summer in a meteorologically favoured place? I would rather have my Grapes or Peaches, if I wished them to come in soon, resting against such a wall, and enjoying its radiation all night long, than be starved in an orchard-house with a temperature of from 40° to 45°. It is not a question of fresh air; and let me refer those who wish to know how nature does in favoured climes to the Montone temperatures for April and May—in May there are only 2.2° between the maximum and minimum. By this I think Nature clearly shows us how to act. The low night temperatures are for autumn, to ripen our fruit and set the buds.

I had written thus far when your Journal arrived containing Mr. Rivers's letter. I will not rejoice that I am in so much happier a position than Job when he sighed, "My desire is that mine adversary had written a book." I began these letters with the hope of gaining information; and now I shall be very sorry to make Mr. Rivers an adversary, but I must remind him that he has written a book. Mr. Rivers has conferred far too much benefit on horticulture for any one to wish him any harm. May I not, then, count on the Editors of THE JOURNAL OF HORTICULTURE to join me in asking Mr. Rivers to confer another benefit on the gardening world by making a large collection of facts, and then publishing another volume of his work. It is evident that his standard of shade is a very rigid one; and I presume when he wrote the book he was a little enthusiastic in the opposite way—the best of us cannot help being biassed by our feelings. I will explain. He says that his climatic world reaches as far as Perth, and that this proves that the orchard-house system is a success. I refer to pages 14, 15, 16, and think what I said is correct—that climate is far more potent than shape. In Lancashire, as a whole, a single four-inch pipe will not enable any shape of an orchard-house to succeed; the trees must be advanced a month, as I advised, so as to make August into their September. If this is done a large span-roofed house, or a lean-to with a brick back, will both succeed after June without fire heat.

Now let me return to the question of the power of sun heat. I will take what I consider is the order in which Mr. Rivers would put them. 1st. The back wall of a lean-to and a large span-roof as equal; 2nd. The front of a lean-to and a small span; last, a hedge orchard-house. Now, what makes this difference? Fresh air at the same temperature will not. The hedge-house cannot be lower than in the case of the forcing-house—35° to 45°, or the large span-roof, which he gives in his last article at from 40° to 50°. It must be the day temperature's gain by sun heat. In the same article he says in his large span-roof this is only 15°; in the book, at page 145, he says the hedge-house gains 15° to 20°. I have already noticed the case of the forcing-house, where he gives the difference as from 20° to 30°. These temperatures want going over again and bringing to one standard, which I hope Mr. Rivers will do next summer, and that he will give us the temperature in the sun as well as in the shade.

I think Mr. Rivers was taken by surprise when he read my paper, and perhaps I was a little "sharp and decisive," but I am new at the business. I have a letter from the gentleman whose orchard-house I mentioned, to say that his varies from 75° to 100°; he does not know the highest point reached. Mr. Rivers says he has seen his at 96°. Was I not justified in telling the owners of lean-to houses, from which the sun is kept out, that they lose more than the value of their pipes in summer time? for are not these temperatures forcing enough? and is it not possible that the Peach trees in these houses enjoy on some days a temperature as high as 110°, for they are not in the shade?

If Mr. Bréhaut will read his paper "My Orchard-House," No. 6, in your Journal of August 2nd, 1864, I think he will acquit me of any intention to misrepresent him.—G. H.

## PLANTS FOR DINNER-TABLE DECORATION.

(Concluded from page 458.)

PLANTS ornamental by their flowers may almost be said to be innumerable. Those of symmetrical growth, that are not too high, and that can be had in flower in a small state, are the best suited, and many hardwooded plants are available. The following list, a very meagre one, is merely given as a nucleus with which to commence a collection.

*Azalea indica* affords many of the most handsome plants that

we have, and these can hardly be excelled by anything for richness of appearance.

*Acacia*.—Some of the species are as remarkable for foliage as they are for their flowers. *A. armata*, *grandis*, and *Drummond* are about as good as any, while *A. affinis* and *decurrens* look well at all times.

*Cinerarias*.—These look well, and coming in at a time when flowering plants are scarce they are indispensable. The foliage has a good appearance, and the flowers are beautiful.

*Cypripedium* being of a neat uniform growth is entitled to a place; the foliage, however, ought to be healthy, and as dark a green as possible in order to show off the pale colour of the flowers by night.

*Cypripedium* are rarely sufficiently showy to be attractive, but being singular, if placed where they have a chance of being closely examined and admired they may occasionally have a place.

*Cactus*, or *Epiphyllum*.—The dwarf winter-flowering varieties of the *E. truncatum* breed cannot be excelled for the purpose. There are several varieties all good in their way.

*Geraniums* or *Pelargoniums* are not inferior to any class of plants. The best varieties are those called Fancies, the intermediate class called French are also good. Comment on any of this family is unnecessary, as they cannot well be improved. *Geraniums* of the Zonal class also afford many useful varieties for the object in view, some being ornamental by their foliage as well as their flowers. In general, however, it will be found that the gold and silver-edged are less satisfactory when seen at night than in the day, but as a change they are worthy a place.

*Gardenia*.—Nice flowering plants look well, especially if the foliage has escaped the attacks of insects, and looks healthy.

*Gesneras*.—Some of the varieties present handsome foliage as well as showy flower-spikes.

*Gloxinias* being more dwarf than the last, and also flowering more abundantly, are certainly superior as a class; unfortunately, however, there is much difficulty in flowering them in midwinter.

*Achimenes* are also invaluable while they last, being suitable alike from the habit of the plant and the brilliancy of its flowers.

*Deutzia gracilis*, as a forced plant, with an abundance of flowers, is one of the most useful plants that we have in its season, from its compactness, and the graceful character of its flowers.

*Diehtya spectabilis* is, perhaps, a little too large for the table, otherwise it is fine in foliage, and in the colour and shape of its flowers.

*Weigela rosea* is also a plant that bears forcing well, and, like *Deutzia*, can be grown of any size, or rather it can be had small.

*Prunus sinensis alba plena*, a double-blossomed Cherry, is a forcing plant of similar merit to the last, the flower being a pure white.

*Deutzia crenata flore-pleno*.—This, like *Deutzia gracilis*, also forces well, and produces abundance of flower. The plant is more robust than *gracilis*.

*Dendrobiums* of several species are also useful. *Dendrobium nobile*, *fimbriatum*, and *speciosum* are sturdy growers, and when in bloom look well; of the others I have not had sufficient experience to give a correct opinion.

*Salvia*.—Small plants of *S. splendens* when nicely flowered look well, and as they come in when flowering plants are not very plentiful are generally acceptable.

*Heaths*.—All the species are good, the winter-flowering ones, such as *E. hyemalis*, *Wilmoreana*, *rubra-calyx*, and others being especially desirable.

*Primula sinensis*, as already stated, is one of the very best plants for table decoration, being low, compact, and the foliage sufficiently spreading to partially cover the pot. It cannot well be improved upon; the leaves ought to be healthy and green.

*Torenia asiatica* is less seen than it was twenty years ago, but when in nice trim forms a very good plant for the table.

*Cyclamens*, like Chinese *Primulas*, are good.

*Hydrangeas*.—Neat little plants look well, and as they can almost be flowered in pots of any size they are useful.

*Camellias* when in flower look well, and sometimes small ones come in handy.

*Orchids*.—Any that may be in flower at the time may be employed when their size will allow of its being done. Their peculiar structure and other features make amends for the



want of symmetry in the plant. *Lycaste Skinneri* is a fine plant, and still better are some of the *Cattleyas* and others.

*Vine rosea* and *alba* are both good, and being easily managed answer well.

*Poinsettia pulcherrima* and the white variety are good, especially the former, which, when clothed down to the pot with foliage, looks remarkably well on the table.

*Leschenaultia formosa* is a gem, the plant being dwarf and compact, with handsome scarlet blossoms.

*Radice profusa* and *micronata*, being dwarf, are good.

*Mimulus*.—Some of the dark-spotted varieties are very showy when well flowered.

*Fuchsias*, especially the smaller dwarf-growing varieties, as the old *globosa* and others with good foliage, are well adapted for table decoration. The flowers hanging mostly at the outside are seen to advantage.

*Veronicas* of the New Zealand class being mostly of a lilac colour do not look well at night; the variegated one, however, is useful for its foliage.

*Petunia*.—The doubled-flowered varieties, being more dwarf than the others, are preferable for this work; nevertheless, a well-flowered little plant of the rose-coloured class is a gem on the table.

*Variegated Geraniums*, though coming more properly under the next class, are nevertheless admissible here. Of the silver-edged kinds those having a dark zone, as *Countess of Warwick*, are to be preferred, and the same may be said of the golden-leaved varieties. *Mrs. Pollock* and *Sunset* are the best of the tricolor-leaved kinds.

We now come to the class of plants which is by far the most numerous, and the members of which continue their services the longest. It is also as much varied as the others, though not, perhaps, as regards colour, and certainly in outline exceeding all other classes. "Fine-foliaged plants," the term used to designate such plants, include denizens of the stove as well as of the wayside ditch, beauty in vegetation not being confined to any particular locality, and, in fact, the very expression beauty is so indefinite that it is no easy matter to say how far it may be stretched, but in the present case only such species of plants will be noticed as are generally approved of. I may observe, that most symmetrically-grown plants well clothed with foliage, hanging at least as low as the collar, are admissible at times, in cases of emergency, for table decoration; but it is always better if such foliage be of a handsome outline and good colour. Pinnated leaves, like the fronds of most Ferns, are better than simple ones, excepting when the latter exhibit some remarkable colour. Very large foliage, however, cannot well be admitted, and plants requiring a number of sticks, or tying-up to a framework of any kind, are highly objectionable, a free and natural growth being wanted. Plants with variegated foliage look, perhaps, better in daylight than at night, unless a considerable portion of the colouring be dark. Where this is not the case some dark object should intervene between the plant and the tablecloth; generally the pot itself or its covering will do this. Plants with dark foliage look remarkably well, and nice little plants of *Coleus Verschaffelti* cannot well be excelled for the effect they produce, unless by similar plants of the best *Dracanas*; all, however, are good that approach this colour. Neat plants of uniform growth but with plain foliage, are also by no means to be despised. Annexed are the names of a few fine-foliaged plants that have been used, and, doubtless, others equally good may be added.

*Accacia metallic*, where it can be had in good condition and small enough, is pretty good, as are also the *A. macrolobiza* *variegata* and *Lowii*.

*Coleus Verschaffelti* makes one of the very best plants for the purpose in view, and an improved variety of it is also said to be good.

*Calceolarias*.—Most of the members of this large family are highly ornamental when in season; they also vary widely in character. *C. argyrites*, *Wightii*, *Belleymei*, and *Chantini* have all been used with advantage, and most likely all the moderate-growing ones might be rendered useful.

*Dracenas*.—Unquestionably one of the very best plants for dinner-table purposes is *D. terminalis*, and all the dark or rather rich-foliaged species are good, while one or two plain green ones, as *D. congestum* and *carnifolia*, are by no means to be disregarded.

*Marantus*.—The smaller-leaved species, as *vittata*, *albomaculata*, *bicolor*, *regalis*, and others look well. The larger class, as *M. zebrina*, &c., are in general circumstances too large. The whole family, however, are fine ornamental plants.

*Begonias*.—Some of the smaller-growing species look well, and even the larger ones when confined to a small pot may be worked in to advantage.

*Grevillea robusta* is a fine free-growing plant with Fern-like foliage. When a tall plant is wanted, this cannot well be excelled.

*Tradescantia*.—A good potful of *T. zebrina* (*Cyanotis vittata*), of the proper size looks well, and, as the plant is easily grown and strikes like a Willow, it is easily obtained. The other kinds are less valuable.

*Sansevieria japonica*.—A dwarf Sedge-leaved plant with finely variegated foliage. It is useful as a dwarf plant.

*Pandanus javanicus variegatus*.—A plant of fine form, but not always obtainable in a small state. It is also less easy of propagation than many others.

*Isoplepis gracilis*.—Now and then this Grass might be introduced when its foliage is at its best. It is scarcely necessary to remark that it is dwarf.

*Crotons*.—*Pictum*, *discolor*, *salicifolium*, *variegatum*, and others are all good when well grown.

*Ficus*.—One or two species are remarkable for the size and sturdiness of their foliage, and such might be introduced as a change.

*Cyperus alternifolius variegatus* is a handsome plant, well suited for this work. Its plain green form may also be used, though more robust than the variegated one.

*Chameroops humilis* and *Fortunii* have fine foliage, and being unlike most others are desirable plants.

*Gesnera cinnabarina* and *Cooperi*, with various forms of *G. zebrina*, look equally well in foliage as in flower.

*Cineraria maritima* is not by any means the worst plant for table decorations, and its foliage having a frosted appearance looks well at night.

*Centaurea candidissima*, like the last, is also good when separated from the tablecloth by the intervention of some dark covering to the pot, or other similar device.

*Polemonium ceruleum variegatum*.—I have not tried this plant, but its fine habit and appearance elsewhere certainly denote its suitability.

*Hardy Shrubs*.—Small plants of *Arbutus*, *Euonymus*, *Eurybia*, *Eucallonia*, and new *Aucubas*, all look well for a change. Plants that have been kept in pots and have rooted through may be taken up and be put pot and all into one a little larger, and the plant will do for a time.

*Aspidistra lurida variegata*.—A fine flag-leaved plant, looks well when healthy.

*Aralias*.—Some of these I believe to be well adapted for the purpose, but not having used them I cannot speak from experience.

*Agaves*, or the *Aloe* tribe, may be used at times. They are sturdy and well-formed plants.

*Arundo donax variegata*, though inclined to become tall, is, nevertheless, useful in its way.

*Lomatias*.—One or two of these are good.

*Ferns*.—This family alone will at all seasons furnish very respectable subjects for the dinner-table, and some, such as the *Adiantums*, *Lomarias*, *Gymnogrammas*, &c., cannot be surpassed for uniformity of growth and gracefulness of habit. Ferns never show their qualities to greater perfection than on the table, and as their name is legion, and their diversity of form so great, they are always acceptable. Even a good plant of the common *Hart's-tongue*, found commonly by the sides of most lanes and hedges, looks well when a little pains have been taken to insure the foliage falling evenly on all sides of the pot. I need not further comment on a race of plants so well known and so much admired.

*Lycopods* or *Selaginellas* are also useful, and the dwarf-growing ones, as *S. apoda*, can be made to assume almost any shape; and if some temporary framework is filled with soil for *S. apoda* to grow in, conical or other shaped mounds covered with it can be had in a very short time. Other kinds are also easily made to assume the proper shape, and, as a whole, the *Lycopods* are invaluable when dwarf plants are required. The deep green of the foliage, and its beautifully pinnated and sub-pinnated outline, give it a charm acknowledged by all.

Besides the above, there are many other plants that might with a little care in their cultivation be made suitable for dinner-table decorations, and most likely several have been omitted which some of the readers of this Journal have thought deserving of a place. It is only necessary to add, that the taste of those who require this description of decoration will (and most justly too), guide the operator; it is also generally

I thought best to vary the character of the plants used, and the more this can be done the better. Of course, when plants are wanted in pairs, let them resemble each other as much as possible, but on the next occasion let the pair be of something else. Plants with rounded tops are generally preferred to those with high-pointed tops, but a set of these sometimes stand in good stead after the others have had their turn. Made-up bouquets to answer the purpose of plants have already been alluded to, and in this class of decoration the last resort is to enlist artificial flowers, but it ought to be the last; and such dried flowers of *Gnaphalium* and *Helichrysum* should be tried with spikes of Pampas Grass, &c. This subject, however, almost deserves a separate chapter. Perhaps some one else will write upon it.—J. ROXBOROUGH.

### MARTYRDOM OF PLANT COLLECTORS.

To the cases of Douglas, the Frasers, Cunningham, and many others, is now added that of Mr. Weir, and we solicit the attention of every Fellow of the Royal Horticultural Society to the following letter from its Assistant Secretary:—"I am desired by the Council of the Royal Horticultural Society to bring before you the case of Mr. Weir, late Foreign Collector of the Society.

"Mr. Weir was on his return journey from Bogota to Santa Martha, in October, 1864, when he was attacked by fever. Mr. Stacey, H.B.M. Consul at the latter place, writes on the 1st November, 1864;

"I am very sorry indeed to have to acquaint you of the serious illness of Mr. Weir. The following is an extract from a letter I have just received from Mr. John May, C.E., dated Henda, the 20th of October:—"Mr. John Weir desires me to write to you and inform you that on coming up the river he was attacked by fever, which after a few days went off, leaving him paralysed in all his limbs from the neck downwards. He has, however, some slight power of movement—the left leg and right arm are most affected; he is utterly helpless, and has to be moved and turned about with the assistance of two men who constantly attend upon him. He is certainly better than when I first saw him on the 15th instant. To-morrow or next day he will be removed to the house of Mr. Jenney. Mr. Weir desires you to settle his accounts; he thinks, poor man, that his collecting-days are over, and requests that you will be kind enough to write to the Royal Horticultural Society, apprising them of the deplorable condition to which he is reduced."

"After remaining for many weeks with Mr. Jenney he returned home, still suffering from almost total paralysis.

"He has now been some time in this country, and the Council, before informing the Fellows of his condition, have waited to see what effect native air and time might have in aiding his recovery. They regret to say, however, that his progress has not been encouraging, and that Dr. Seymour Haden reports most unfavourably of his case.

"The Council feel that they cannot apply the funds of the Society for any length of time for the support of Mr. Weir, but they have no doubt that the Fellows of the Society who have benefited so much by the beautiful plants sent home by their late Collector will not be unwilling to subscribe to provide for one who has lost his health in their service.—J. COCKERELL, Assistant Secretary."

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Subscriptions will be received by Capt. Cockerell, Royal Horticultural Society's Offices, South Kensington, W.

### NEW ROSES.

I FULLY intended to have finished my anatomy of the French Rose lists last week; but having through some carelessness mislaid the lists I was unable to do so, and now complete my task. As I suppose the said lists have all been sent out, we may in one sense congratulate ourselves that we are not flooded by the usual amount of Roses this year. Instead of the eighty or ninety of last season, we have about forty Hybrid Perpetuals, four Bourbons, and one Tea. But looking at the lists in another point of view even this bright spot is dimmed,

while what I may call inferior raisers—raisers who have never really given us anything first-rate, are still "to the fore," as our Irish friends would say. I miss the well-known names of Margottin, Charles Verdier, Leveque, Marechal, and Portemer—men who have given us such Roses as Jules Margottin, Comte Cavour, Duchesse de Caylus, Due de Rohan, Cécile de Chabrilant, and Lord Macanlay. Their very absence is, however, a fresh proof of the confidence we may fairly repose in them. Had they had Roses which they pronounced good we should have heard of them, and I venture to say they had many as good as a large number of those in the lists. Indeed, I shall be very much mistaken if this season do not prove a comparatively barren one, giving us but few good Roses. The few remaining flowers are as follows:—

#### GAUTREAU.

34. *Camille Bernardin*.—Very vigorous. Seedling of Général Jacqueminot. (We have too many of this gentleman's babies already.) Flowers large, well formed, full, beautiful new shade of red, very fragrant. Has received a silver-gilt medal.

#### J. VERSCHAFFELT.

35. *Empereur de Maroc*.—Another of the Général's progeny, and, as it is said to be only nearly full, I fear partaking not of the virtues but of the vices of his papa; nor do I see a word in the description that might not apply to the Général quite as well.

#### FONTAINE PÈRE.

36. *Fanny Petzold*.—Plant very vigorous. Flowers large, full, imbricated, opening well, beautiful clear rose, satined (?) with white.

37. *Gustave Persin*.—Plant very vigorous. Flowers very large, full, well formed, very rich colour—purplish red shaded with scarlet. This variety is said to produce as great an effect as Monte Christo—well, Monte Christo does not hold a very high place in our affections over here.

38. *Mademoiselle Marie Raby*.—Plant very vigorous, flowering well in autumn. Flower very large, full, and of perfect form, imbricated, and opening well, beautiful lively red bordered and satined with white. Very beautiful.

These all sound very nicely, but this, we know from sad experience, is no criterion of worth; nor do M. Fontaine's previous successes inspire us with a great deal of confidence.

#### SOUPERT ET NOTTING.

39. *François Goeckhe*.—This has the merit at least of a queer name. Plant very vigorous. Flowers large, well formed, beautiful lively red passing to cerise red; bordered, or, as I should suppose we would say, back of the petals, lilac.

#### GONOD.

40. *Madame Fillion*.—Plant very vigorous. Seedling of Madame Domage. Flowers very large, full, well formed; petals beautifully rounded, lovely salmon rose, superb.

41. *Madame Hoste*.—Plant vigorous, very free-flowering. Flowers large, full, perfectly imbricated, in clusters, flesh colour, spotted with lively rose. Admirable.

#### BOURBON ROSES.

42. *Jules César* (E. Verdier).—Plant very vigorous. Flowers large, in clusters of from five to eight, very full, well formed, fine shaded cerise rose.

43. *Madame Charles Ballet* (E. Verdier).—Plant very vigorous. Seedling of Louise Odier. Flowers large, in clusters of five to eight, very full, perfectly imbricated, beautiful fresh tender rose.

44. *Le Florifère* (Soupert et Notting).—Plant vigorous. Flowers medium-sized, nearly full, lovely crimson red passing into satiny rose. An excellent variety for grouping, owing to its free-flowering character.

45. *Mademoiselle Jenny Gay* (Guillot fils).—Plant vigorous. Seedling of Louise Odier. Flowers medium size, very full, very well formed, flesh white, with tender rose on the reverse of the petals. A charming plant.

#### TEA ROSES.

46. *Madame Retornaz* (Guillot père).—Plant vigorous, very free-flowering. Flowers large, full, buff; centre copper colour.

I quite agree with Mr. Radclyffe that we have too many seedlings of Louise Odier, all very much alike, and all of them, with some few exceptions, different in size. They are very pretty, but do not come up to the standard of our requirements.

And now what shall we say to all these candidates for public favour? I believe that the favourites are to be found amongst Mlle. Marguerite Dombain, Alfred Colomb, Eugène Beaunarnais; and that next in rank are President Mas, Prudencee



Besson, and Alba Mutabilis. As to the others I can predicate nothing, and time only can tell whether the "flattering tale" is all fancy's sketch or not.—D., Deal.

## ROYAL HORTICULTURAL SOCIETY.

DECEMBER 5TH.

**FLORAL COMMITTEE.**—This meeting, by the liberal aid of Mr. Veitch, and plants furnished by Mr. Eyles from the Society's garden, considering the late season of the year was made very interesting and attractive. Mr. Veitch's collections of flowering plants and Orchids were extremely beautiful, and both received special certificates. Among the former were a magnificent specimen of *Thibaudia macrantha*; *Phormium tenax variegatum*; some very pretty specimens of *Epiphyllum truncatum*; *Aucuba japonica vera*, with its elongated scarlet berries; *Aucuba longifolia*, which was awarded a first-class certificate in June, 1864; *Rhododendron Princess Alexandra*; the beautiful *Bertolonia pubescens* and *guttata*; the not less beautiful *Sonerila margaritacea alba nova*; *Eriocnema marmorea*; the Cuphea-like *Libonia floribunda*, and other interesting plants. The varieties of *Lycaste Skinneri* among the Orchids were very beautiful, the extraordinary-formed flowers of *Angraecum sesquipedale* were very conspicuous, especially when compared with the small-flowering *Angraecum pertusum* in Mr. Wilson Saunders's collection. *Dendrobium Tattorianum*, *Barleria Skinneri*, and one or two varieties of the hybrid *Cattleya Dominiana* were also included in this collection. Messrs. Lacombe, Pince, & Co., Exeter, sent the parent plant of *Polystichum angulare parvissimum*, a dwarf-habited variety, for which a first-class certificate was awarded. Mr. Bateman exhibited cut specimens of *Thibaudia oconensis*, a greenhouse plant, introduced by Mr. Linden from Grenada, having scarlet and white wax-like-looking flowers, with bright green foliage. This received a second-class certificate. Mr. Bateman also sent cut specimens of a *Gaultheria*, raised from seed collected by Mr. Skinner. The specimens were not in condition to afford any idea of its merits. Mr. Green, gardener to W. W. Saunders, Esq., exhibited a small group of interesting Orchids, consisting of *Cologyne* sp., name unknown, with curiously-formed flowers of a pale dull brownish hue; *Angraecum pertusum* with long narrow spikes of densely arranged white flowers, *Liparis spatulata*, and three *Oncidium*s. A special certificate was awarded this collection. Mr. Eyles exhibited a very nice collection of Orchids from the Society's gardens, consisting of a very fine variety of *Lycaste Skinneri*, three species of *Cypripedium*, *venustum*, *barbatum*, and *insigne*; the brilliant *Sophronitis grandiflora*, *Zygopetalon crinitum*, various *Draconas*, *Maranta albo-lineata*, fine specimens of variegated *Crotons*; also, several plants of *Poinsettia pulcherrima* with their brilliant heads of flowers. Mr. Eyles also brought before the Committee another of Mr. Weir's *Odontogloss*ts, with dull green flowers marked with brown blotches, not unlike *O. gloriosum*, but differing from the latter in the remarkable position of the lip, which seemed placed at right angles with the centre of the flower. This variety was said to be *O. Lindleyanum*.

**FRUIT COMMITTEE.**—G. F. Wilson, Esq., F.R.S., in the chair. The subjects brought forward on this occasion were few. Mr. Parsons, gardener to W. Blake, Esq., Danesbury, sent some excellent Winter Nolis and *Josphine de Malines* Pears, also Winter Crasanne; and Mr. Myatt, Deptford, a small seedling Pear, which was of remarkably fine flavour. The Committee deferred coming to a decision upon its merits till it had been seen again. Mr. Veitch, Chelsea, exhibited fruit of *Stauntonia latifolia*, grown by Mr. Jack, gardener to the Duke of Cleveland, Battle Abbey; also, fruit of *Mandevilla suaveolens*, both of which fruits are noticed in our account of the Scientific Meeting. Mr. Vair, gardener to Lady Dorothy Nevill, again exhibited fruit of *Monstera deliciosa*, from the stores at Dangstein, and was awarded a special certificate.

**SCIENTIFIC MEETING.**—W. Wilson Saunders, Esq., F.R.S., in the chair. The awards of the Committees having been reported to the meeting, the Rev. M. J. Berkeley briefly reviewed the subjects exhibited. Among these was the fruit of *Monstera deliciosa*, respecting which Mr. Berkeley said he had not much to add to what he had stated at previous meetings. The fruit when perfectly ripe was of fine flavour, and would be useful were it not for the disagreeable prickles which stuck in the throat; it was extremely luscious, but he might mention that a gardener who had eaten half of one, had in consequence become exceedingly ill. The fruit of *Stauntonia latifolia* grown by Mr. Jack, and exhibited by Mr. Veitch, next came under notice. It was stated to resemble the fruit of the common Brinjal, a kind of Egg-plant, and the plant producing it belonged to the small and curious natural order, *Lardizabalaceae*, which was nearly allied to *Berberidaceae*. The *Lardizabalas* were almost entirely confined to the east of Asia, and to America; a doubtful species, however, was found in Madagascar. The fruit of *Stauntonia hexaphylla* was eaten in Japan, but was not held in much esteem, being like that of *Stauntonia latifolia*, almost tasteless. Mr. Veitch had likewise brought the fruit or pods of *Mandevilla suaveolens*, which resembled two long horns. The Orchids were next touched upon. *Angraecum sesquipedale*, characterised by its extremely long spur, was contrasted with

*A. pertusum*, which, on the contrary, has a very short spur, and is less remarkable for beauty of colour than for elegance of structure. A *Cologyne*, from Moulmein, exhibited by Mr. Green, it had been suggested by some, approached *C. speciosa* in character, but it was more like *Cologyne Parishii*; still there was good reason to believe that it would prove to be perfectly distinct. An *Odontoglossum* sent to the Society by Mr. Weir, was also probably a new species, and offered a point of interest in the extreme lobe of the lip being in a perfectly vertical position, which was almost without a parallel in this tribe of plants. The similarity of *Thibaudia oconensis* to a *Rhododendron*, exhibited in the spring, and to *Rhododendron Keyssii*, figured in the "Botanical Magazine," of 1855, was next pointed out; but this *Thibaudia*, however interesting it might be, was not comparable with *T. macrantha*, one of the most beautiful plants ever introduced into this country. Mr. Bateman had, in a lecture in the early part of the season, pointed out how well the graceful pendant habit of the *Thibaudias* fitted them for decorative purposes in buildings. A *Gaultheria*, from Mr. Bateman's, it was remarked, was graceful, probably hardy, and most likely merely a variety of *G. ferruginea*. *Polystichum angulare parvissimum* from Messrs. Lacombe, Pince, & Co., was spoken of as one of the most charming varieties of British Ferns, and although the word *parvissimum* had been objected to, an authority for it had been found in Lucretius. Mr. Berkeley concluded by calling attention to the charming collection of plants from the Society's garden, and especially to *Musa coccinea*.

Mr. Wilson Saunders said he wished to offer some observations on two or three Orchids which he had brought to the meeting. Among them were three varieties of *Oncidium carthaginense*, which he had brought to show the variation of species in their natural habitats, and all of which varied considerably in colour and marking, although coming from the same locality, Belize; the colour of the petals had nothing to do with the botanical distinctness of species, and whatever those not conversant with botany might think, colour was no criterion at all. Mr. Berkeley had made some observations on a *Cologyne* which he (the Chairman) had brought; its great interest lay in the side petals having vanished into hair-like appendages, and there was no doubt that it belonged to the genus *Cologyne*, the species of which were now becoming very abundant. Assam, Martaban, Texas, and Singapore, were the countries of the *Cologyne*s. *Monstera deliciosa* had been mentioned; it was a plant most easily grown by those having a damp house with the requisite heat, and could then be fruited very easily. Cultivation might do much, but it was his belief that it could not be turned to account as an edible fruit. The way in which he grew and fruited it every year was to keep it close to a tank, so that the roots might find their way into it; and it was curious to observe how seemingly anxious they were to go into the water, passing down into the tank as a long thick root, and then branching out and divaricating in all directions. They sucked up water in an extraordinary way, and the plant then grows with great rapidity. The large leaves were perfoliate, or cut in holes, and had a curious effect when held up to the light. The mode in which they were developed was also most remarkable, the leaf being turned backwards and rolled round the leafstalk, forming a sort of spathe; by degrees it begins to unfold and assume an ascending position, and in a week it becomes hardened. Mr. Saunders concluded by recommending the *Monstera* for cultivation on account of the interest attached to its growth.

## INTERNATIONAL FRUIT SHOW.

DECEMBER 9TH.

THIS was opened to the public on Saturday last, and will continue till the 16th. Although it was only considered as one of the minor shows, and the amount of encouragement held out in the shape of prizes was consequently limited, the result has been an extensive and generally excellent display, far exceeding the most sanguine expectations that had been formed of it. Home-grown productions are not in such plenty as we could have wished, and of foreign nations, Denmark and Belgium are the only ones that have come forward. On the other hand, the colonies are well represented by Nova Scotia, which takes the lead with a very large collection, consisting chiefly of Apples; by Victoria, Malta, and last, but not least, India.

Of the British part of the Exhibition, the most prominent feature is the magnificent collections of Mr. Lewis Solomon, and Messrs. Webber & Co., of Covent Garden. It is scarcely necessary to remark, that a large proportion of the subjects which they exhibit have been obtained at great cost from France and the West Indies; still there are, especially in Messrs. Webber's collection, some extraordinary Pears of English growth. Mr. Solomon exhibits twelve Fines—Jamaicas, Cayennes, and Queens; Bananas, Pomegranates, Shadocks of the largest size, Pomeles, Prickly Pears, Medlars; Barbadoessa, Black Hamburgh, and Sweetwater Grapes in bunches; fine baskets of Black Hamburgs and Muscats; also, of Tangerine, Mandarin, and St. Michael's Oranges. It is, however, the Apples and Pears that constitute the great feature of the collection; the latter consist of immense fruit of *Uvedale's* St. Germain, grown merely for show, it being a stewing Pear. Glon Morecan, Chaumontel, Easter Beurré, and St. Germain, all of the largest size; also, Black Worcester, another kitchen variety. The Apples comprise Ribston Pippin, the beautiful Lady Apple, Nonpareils, Reine d'Angleterre, a very showy French

variety, and very large specimens of Reinette du Canada, and Calville Blanche. In addition to the fine collection of fruit, Mr. Solomon has one of vegetables, in which are fine Perigord Truffles, Asparagus, green and blanched, Green Peas, Sea-kale, Kidney Beans, fine Car-doons, Globe Artichokes, and Lettuces.

Messrs. Webber have also wonderful Pears, especially the Uvedale's, eight of which of French growth weigh between 19 and 20 lbs., and twelve grown in Bedfordshire, 22 lbs., these last measuring from 12 to 13 inches in circumference. The other Pears consist of magnificent specimens of Easter Beurré, Joëphine de Malines, large and very fine; Catillac, St. Germain, and Passe Colmar, likewise very fine. Scarcely less remarkable are the Apples from the same firm, especially the Golden Noble, beautiful and clear in colour; Reinette du Canada; Striped Beefing, a showy and excellent kitchen fruit; Calville Blanche; Pomme d'Api; and Gloria Mundi. For Grapes there are Muscats and Black Hamburgs; of Pines, several of the Cayenne and Black Jamaica; and two excellent Scarlet Gem Melons. Tanguier Oranges, Prickly Pears, Pomegranates, Shadocks from the West Indies, Litchies from China, fruit of a Solanum from St. Michael's, Sapumia Nuts from Mexico, Coh Nuts and Monkey Nuts, Hickory Nuts and Pistachio Nuts, complete the list of subjects forming this admirable collection.

Great credit is due both to Mr. Solomon and Messrs. Webber for their spirit in bringing forward such fine collections, constituting as these do the greatest attraction in the Show, at least for the bulk of the visitors.

The next most important feature is that exhibited in Class 1, which is for the best collection of fruit and vegetables grown in the garden of a Sovereign; and though Mr. Ingram, Her Majesty's gardener at Frogmore, had no concurrent to contend against, his collection well deserves the gold medal which was awarded for it, more especially as it was not grown specially for the occasion, but is a sample of the ordinary resources at this season of the garden which he superintends. It comprises six noble Smooth-leaved Cayenne Pines, ranging from 6 to 7 lbs. each, and very equally matched in size and appearance; Black Hamburg Grapes from the large Vine at Cumberland Lodge, a seedling late Black Grape, West's St. Peter's, Alicante, and Muscats; and beautiful dishes of Apples, among which we remarked Scarlet Nonpareil, Cox's Orange Pippin, Court-Pendu-Plat (beautifully coloured), Dutch Mignonette, King of the Pippins, a seedling called Nugget, another seedling taking somewhat after the Blenheim, Damocles's Seedling, Old Nonpareil, Cockle Pippin, and Downton Nonpareil. Pears consist of Prince Albert (an excellent variety raised by Mr. Ingram, and described in these pages some two or three years ago), large and remarkably fine, Vicar of Winkfield, Glou Moreau, Easter Beurré, No Plus Mouris, Beurré Diel, Forle, and Beurré Clairgeant, &c. Vegetables are represented by Mohawk Kidney Beans, Asparagus, Hammersmith Hardy Green, Royal Cabbage, and Brown Cos Lettuces, finely blanched Endive, Broad-leaved Sorrel, Basil, Chervil, Mint, Mustard and Cress, Powell's Early Tomato, an early kind which we are informed requires little trouble in pruning; and Chilies. The coarse kinds of vegetables are shown in the Arcade.

Adjoining Mr. Ingram's collection, Miss Small, of Colnbrook, exhibits jam made from the Melon Vegetable Marrow, plain and flavoured; also, Tomato jam, brisk and excellent in flavour, and pickles.

From Mr. Whiting, the Deepdene, come fine samples of Court-Pendu-Plat, Fearn's Pippin, Adams's Pearmain, Cox's Pomona, and other Apples; from Mr. Webb, Reading, Coh Nuts and Filberts, among which are Webb's Prize, Emperor Cob, Princess of Wales, Corford, &c., also Apples and Pears. Of the former Scarlet Pearmain, Fearn's Pippin, Court-Pendu-Plat, King of the Pippins, Scarlet Nonpareil, and Golden Russet are beautifully coloured; the others principally consist of Reinette du Canada, Blenheim Pippin, Cockle Pippin, Golden Harvey, Old Pomeroy, Syke House Russet, French Crab, Beauchamwell, Sturmer Pippin, Golden Pippin, Court of Wick, and Excelsior, a very showy variety. Comte de Paris, Van Mons Lion le Clere, and some other Pears are also well represented in this collection. Mr. Dixon, Holland House, contributes Cluster Golden Pippin, Rymer, Cox's Orange Pippin, Barcelona Pearmain, Beauty of Kent, French Crab, Royal Russet, and other Apples, together with Glou Moreau, Duchesse d'Angoulême, and Beurré Diel Pears; and from Mr. Ford, gardener to W. E. Hubbard, Esq., Horsham, comes a very good collection of fruit, chiefly consisting of Apples and Pears. The former include excellent examples of More de Menace, French Crab of 1861 and 1865, King of the Pippins, Wadhurst Pippin, Adams's Pearmain, Flower of Kent, Royal Russet, Golden Reinette, Blenheim Pippin, Holland Pippin, Court-Pendu-Plat, Cornish Gilliflower, Pearson's Plate, and a seedling stated to be an excellent dessert Apple. The Pears comprise Glou Moreau, Easter Beurré, Broom Park, Beurré Diel, Duchesse d'Angoulême, Uvedale's, and Bequene Musqué. The same exhibitor also sends Ruby Castle and White Dutch Currants in good condition, Oranges, Limes, Calabrian Raisin Grapes, six cones of Picea Webbiana from a tree 29 feet high and eighteen years old, Tricolor India Cern, fruit of a Physalis, honey, and dried flowers. From Mr. Young, gardener to E. Barclay, Esq., Highgate, come excellent specimens of Alexander, Allriston, Blenheim Pippin, and Syke House Russet Apples; from Mr. S. Snow, gardener to the Countess of Cowper, Wrest Park, six Uvedale's St. Germain Pears, weighing 13 lbs. 13 ozs.; and from G. F. Wilson, Esq., fine Chaumontels from a

pot tree in an orchard-house moved out of doors to ripen its fruit. Mr. Smythe, gardener to Lord Sondes, has Apples and Pears. A similar exhibition comes from the Rev. G. W. St. John, the Rectory, Woodstock. In this are remarkably fine Easter Beurré Pears, Duchesse d'Angoulême, Doyenné d'Alençon, St. Germain Vauquelin, and Colmar des Invalides, French Crab Apples of 1861 and 1865, and Cox's Orange Pippin grown with and without house sewage, the former being much the finer.

Mr. Humau, gardener to R. T. Crawslay, Esq., Merthyr Tydvil, contributes four good Luville Pines and an Antiguan; and Messrs. Rivers & Son a number of Orange trees in pots, and in fine bearing, consisting of the Tanguier, St. Michael's, Maltese, Ampton, and variegated varieties, the last very useful for decorative purposes. From Mr. Downing, gardener to T. Grissell, Esq., come very fine Pomegranates grown in an orchard-house without artificial heat; from Messrs. A. Henderson & Co. Eucharis amazonica, remarkably fine; and from F. J. Graham, Esq., Violets, charmingly interspersed with Maiden-hair and other Ferns, inserted in Custard Vegetable Marrows, thus forming very graceful table or room decorations. Among other miscellaneous articles are preserved fruits, pickles, &c., from Messrs. Fortnum & Mason, Burgess & Sons, and Mr. Beesley, Twyford Abbey.

In the foreign department M. Cappeneck, Ghent, Belgium, exhibits a numerous collection of Apples and Pears, and a very extensive collection of a similar character comes from the Horticultural Society of Copenhagen. In this Reinette du Canada and Court-Pendu-Plat are very good, and many of our well-known English varieties, as London Pippin, King of the Pippins, French Crab, Norfolk Beefing, No russet, Claygate Pearmain, &c., are well represented. Besides these there are numbers of showy Apples, such as Pigeon Rouge, Nonnetilly, Princesse Noble, Wine Apple, &c., of which the only merit is probably their colour. One, almost white, with a pink cheek, had a very delicate appearance. The Pears from such a climate as that of Denmark could not be expected to be remarkable; among them are Seckel, Joëphine de Malines, Winter Nelis, Vicar of Winkfield, Beurré de Rance, Uvedale's and Vervain, both small. The Fruit-growers' Association of Nova Scotia send an extensive and fine collection of Apples and a few Pears, the latter, however, not in good condition, owing to their long voyage. The Apples are for the most part very large and fine, though scarcely equal to those shown by the same colony at the former International Fruit Show. Besides many local varieties, Baldwin, Esopus Spitzenberg, Northern Spy, Ribston Pippin, Blenheim Pippin, Alexander, Gloria Mundi, Rhode Island Greening, Gravstein, and Dutch Codlin are very fine. We also noticed the old Golden Pippin, Pomme d'Api, and King Apple and Margaret Pippin, both of which are very showy. From Malta come preserves, several fine dishes of different kinds of Oranges, Lemons, Shadocks, Pomegranates, Prickly Pears, Bananas, Bread Melons, Tomatoes, Cucumbers, very large Gourds, Water Melons, Artichokes, Turnips, Garlic, Peas, very poor Celery, and other vegetables, none of them remarkable for perfection. Victoria sends the models of fruits and vegetables lately exhibited at Dublin; and India, preserved fruits and vegetables, together with a book of drawings and photographs of edible fruit and vegetables dedicated by Dr. Short to the President of the Royal Horticultural Society, also a book of specimens of the leaves of vegetables eaten by the natives of southern India.

#### VEGETABLES.

Here again Nova Scotia exhibits, the subjects sent being thirty-eight kinds of Potatoes, Onions, Gourds, Parsnips, Carrots, Beet, and Kohl Rabi. Excellent collections of vegetables come from Mr. Ingram, gardener to Her Majesty, Mr. Whiting, the Deepdene, Mr. Budd, gardener to Earl Darley, Cobham Hall, and Mr. Ford, Horsham. Potatoes are very well represented in collections from Mr. Whiting, Mr. Ford, and Rev. G. W. St. John, Woodstock, who out of sixteen sorts exhibited received certificates for twelve. In another column will be found an account of some of these for our correspondent "UPWARDS AND ONWARDS." Messrs. Cutbush exhibit eighty halves of the handsome and very productive Naucham Park Onion, also Cutbush's Crispson Beet; Messrs. Dewar, of Newcastle-on-Tyne, Northumberland Champion Celery and Dewar's Improved Short-top Beet, of which a highly favourable opinion is expressed at page 402; Messrs. Smart & Mein, Fairbairn's Pink Seedling and Smith's Early Potatoes; and Messrs. A. Henderson & Co., a collection of twenty-four Variegated Kale. Messrs. Barr & Syden, in addition to a large collection of Gourds, exhibits plant-cases, Webb's Imperial Kidney, and other Potatoes; and Messrs. Roberts & Sons tobacco tins for fumigation. To the above exhibitors numerous certificates were given, but we must defer entering into further details till next week.

The Show, altogether, is an interesting and good one of its kind, and well worth visiting.

#### INTERNATIONAL HORTICULTURAL EXHIBITION AND BOTANICAL CONGRESS.

It is with much pleasure we announce that, besides Her Majesty and the other members of the Royal Family, His Royal Highness the Duke of Cambridge has given in his adhesion to



the International Exhibition of 1866; and that Professor De Candolle, of Geneva, has accepted the office of President of the Congress, to which he was unanimously elected at the last meeting of the Executive Committee.

### BOILERS.

I AM glad that "H." has followed up the remarks of our able correspondent "R. F." by detailing his experience with boilers, and I hope that others will adopt the same course. Although differing from "H." in the opinion he entertains as to fixed boilers, I am by no means sure that I am not in the wrong. It seems certain that perfection has not been reached in any boiler yet in use, and I am doubtful whether we must not go back to some of the early forms if good service and general utility be wanted. The boilers which we have here at work are the conical, tubular, saddle of two or three designs, and another not described in the general lists of such apparatus, and for simplicity of feeding and working the saddle boiler is the favourite. I do not mean to say but that the

tubular boiler does its work with quite as little fuel, perhaps less, but this is difficult to ascertain, as they do not heat equal quantities of pipe; but the fireplace will hold any description of fuel, and that is a consideration not to be undervalued. I confess that I have not had any practical experience with boilers standing out from the brickwork, but I cannot dispel from my mind the impression that they are better adapted to heat the shed or place in which they stand than the line of pipet with which they are connected, by reason of so much heat escaping from the boiler or its casing. Those, however, who have tried such boilers for heating a moderately large quantity of piping will be better able to inform us, and certainly the subject deserves every attention.—J. ROBSON.

**LIME IN THE SOIL FOR ORCHARD-HOUSE TREES.**—Although, as Mr. Rivers suggests, calcareous matter may be beneficial to stone fruits, it appears to be by no means necessary, from the fact that a friend grows Peaches, Plums, &c., in great abundance and excellence without having a particle of chalk or lime in the soil used.—A. E.

### CULTIVATION OF THE LIME, CITRUS LIMETTA, IN THE EXETER NURSERY.

I SEND you a photograph of a cluster of Limes and a portion of the case in which the plant is growing, also a rough plan of the case, its dimensions, and a few plain practical remarks upon the culture of this beautiful and highly desirable fruit. As you will readily perceive, nothing can be more simple than the method which we adopt. The case is attached to the end of a common greenhouse, and the Lime, which is planted out, is trained upon a plain lozenge-shaped galvanised wire trellis affixed to the wall, which is merely a continuation of the wall against which the greenhouse is erected. This trellis affords great facilities for arranging the flexible shoots symmetrically upon it, instead of nailing them against the wall, and nothing can exceed the unique and beautiful appearance of the case, covered as the plant always is with blossoms, green fruit in all their stages of development, and clusters of bright golden fruit at full maturity. No artificial heat is supplied by hot-water pipes or otherwise in the case itself, but an end sash of the greenhouse, before alluded to, is thrown open so as to admit the passage of warm air into the case when the weather is very severe; but, unless there is a prevalence of frost, this heat is not admitted, as the cool, steady, rather humid atmosphere of the case is much more congenial to the health of the plant than if recourse were constantly had to the warmth derivable from the greenhouse.

The border inside the case was excavated to the depth of 3 feet, and filled up first with rubble drainage, such as brickbats, &c., to the depth of 9 inches; then good sound turf, cut from a pasture field, was laid one sod thick neatly upon the top of the rubble, grass side downwards, and upon the sods was placed a compost of good sound turfy loam, well decayed dung, leaf mould, and coarse sand or grit in about equal quantities, the whole chopped roughly and blended together, but on no account sifted or beaten fine. On this soil,

inside the case, is placed a common wooden trellis for walking on, such as is commonly used in vineries and Peach-houses; this is highly desirable, for it prevents the soil from becoming close and sodden, and keeps the border free and open.

The Lime having been thus planted requires to be very cautiously watered at first, but as soon as the roots have worked into the congenial soil, and vigorous shoots are produced, a liberal supply of water should

be given, and the whole plant syringed occasionally in the evening; free admission of air during the day is also requisite. When the wire trellis is well covered the plant will commence bearing abundantly, and water must be administered copiously, which, as the border is well drained, will impart health and vigour to the plant, and the soil must never be permitted to become thoroughly dry. This point should be well looked to, for nothing is so pernicious to the general well-doing of the Lime as permitting the roots to get into this condition; occasional supplies of liquid manure in a very diluted state may also be beneficially given during the spring, summer, and autumn, not oftener, however, than about once a fortnight. I have alluded to syringing the Lime—this, however, should not be done during the time the plant is in blossom, as that process would damage the fertilising quality of the pollen, and thus prevent the fruit from setting freely.

Without going back to the mythic gardens of the

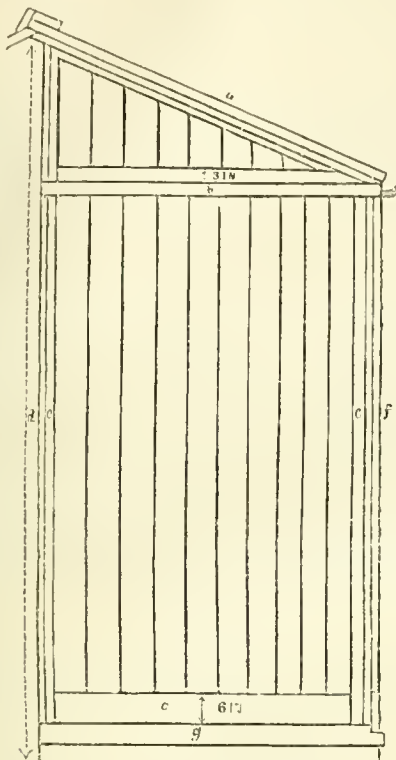
Hesperides, with the dragon guarding the golden fruit—"Aureaque Hesperidum servans fulgentia mala."

various species and varieties of the Citrus family have, with the glorious appearance and the refreshing health-bestowing qualities of their beautiful fruit, for ages attracted the universal attention of mankind; and the Orange, the Citron, and the Lemon, with their numerous varieties, are now, and have long been, appropriate ornaments in all gardens possessing any pretensions to the name of garden.





sions to horticultural eminence. From some cause, however, probably from ignorance of its comparatively hardy constitution and facile culture, the Lime (*Citrus limetta*) has not met with that general cultivation which it deserves; certainly it might and ought to be grown advantageously in every good garden, for not only are the immature green fruit (which are



SECTION OF CASE.

a Sash, 5 feet 2 inches long.  
b Top rail.  
c Bottom rail, 6 inches deep.  
d Line of back wall, 9 feet high.

e e Style.  
f Front, 6 feet 5 1/2 inches high from sill, 13 feet 8 inches wide.  
g Sill, 4 feet 9 inches.

thinned off by hundreds) delicious in a preserved state, but the ripe fruit are serviceable wherever a Lemon is required, to which the juice and rind of the Lime are in every respect vastly superior. The merits of Lime-juice as a specific for scurvy are too well known for me to do more than just in conclusion allude to the subject. We give air freely in summer by taking off part of the case, and stop all over-vigorous shoots by simply pinching them off at about 6 inches from the plant. —ROBERT T. PINCE, *Exeter Nursery, Exeter.*

### RIDGE AND TRENCH POTATO CULTURE.

WHEN I read the unfavourable account which Mr. Fish gave of his Potatoes the other day it reminded me that it was time I sent you my annual paper on the subject. The disease has been very prevalent in this neighbourhood, more particularly in the part immediately surrounding me, the crops having been nearly destroyed; and the majority of the largest tubers of those which were stored have either rotted already or are gradually doing so. Now, why should I remain exempt from this evil more than my neighbours? This is just the observation which a tradesman in this borough made to me some years ago, and when I invited him to come and see my crop, and the system I worked upon, he simply declined doing so: therefore no more could be said. I have so frequently and minutely explained the plan in these pages that I feel it would be mere repetition to go over the subject again. Still there must be much in the system of management and cultivation favourable to the development of the tuber, and antagonistic to the disease; for I invariably obtain good, sound, and well-flavoured crops. I admit, however, that I was put on my mettle this year; for it has been about as trying a season as any that I remember since the fatal one of 1846.

I planted all my Potatoes on the 11th and 12th of April, and on May 5th they were appearing well above ground. About the middle of July the foliage began to be spotted with the disease, but luckily I had only planted the Brussels Sprouts and Walcheren Broccoli in the trenches between the early sorts. My late Broccoli I had deferred planting between the later Potatoes on account of the electric state of the atmosphere, which I regarded as a warning against the disease, and I adopted a plan I had never before thought of in order to save the plants from the disease. As I gave an account of this at the time, so that others might be enabled to prove the advantage, I must beg to re-introduce a passage here in order to render my present remarks more intelligible.

At the beginning of August I said, "I am in great anxiety just now about my Potatoes. The leaves became spotted three weeks ago, and the electrical state of the atmosphere since that time, along with prevailing rains, has kept me haymaking at the haulm at every opportunity—yes, haymaking, for I could not stand still and allow my Potato patches to become like a blackened fetid dunghill, which they presently would have done; and as to cutting away the haulm entirely, that does more harm to the tubers than letting it alone, on account of the exuding sap from the close-severed stems running down and perpetually moistening the ground, and thus inevitably causing disease. Well, I cut away with the garden shears all communication between the foliage of the separate ridges, and cleared away the severed leaves; then with a Parkes's fork I turned and bore all the growing tops to the right-hand side of the ridges, and with the fork slightly scratched the bare or left-hand sides, as well as the bottoms of the trenches. When the sun had dried the surface of the ground and the uppermost side of the haulm, I immediately turned the haulm over to the left-hand side of the ridge, and again scratched the surface of the soil laid bare. Afterwards I took the opportunity, whenever the sun had again dried the surface of the soil and the foliage, to turn the haulm over. I believe that I shall save my crop from becoming diseased by the above method, and it makes me more in favour of the ridge and trench plan than ever. I could never have thought that Potato-tops would have borne so much knocking about with impunity; and the sun soon converts the mildew-affected leaves, when these are turned over to meet its scorching rays, into tinder, before the disease can be communicated to the stem. This rough mode of procedure as regards the top will, however, upset some nice calculations I was in hopes of being able to make this season to satisfy Mr. Abbey."

Before the above paragraph was printed I had taken up all my early kinds of Potatoes—viz., Mitchell's Early Albion Kidney, Shutford Seedling, Hogg's Coldstream, Daintree's New Seedling, and a new seedling which I have named the Bee-hive Potato—one of thirteen "seedlings of 1862 from Flukes," about the size of pins' heads, which were sent to me by an unknown "brother bee-keeper" from Scotland in an envelope, in a Stewarton bar-and-frame hive, along with some noted varieties of Scotch Potatoes; and if ever I find out the name of the sender I trust to have the pleasure of returning him one of his own seedlings, which I have proved to be an early kind, immediately following my first earlies. It has moderate foliage, is a good cropper, roundish, shallow-eyed, flesh white, firmly mealy, and it is a very desirable medium-sized, good-flavoured sort—the only one out of the thirteen that is worth perpetuating.

On the 24th and 25th of August, I took up Daintree's Seedling, which averaged between fifteen and sixteen tons per acre. It is the only kind that I measured and weighed for bulk of crop this year, although all the sorts appeared to be quite up to my usual averages; also, Fortyfolds, Lapstone Kidney (about a peck of diseased tubers amongst these, and super-tuberation had begun), Haigh's Kidney, and Fenn's Onwards Potato, a new seedling of my own, which I raised from a cross between Jackson's Seedling and the original Fluke. It is a second early, roundish, somewhat flattened, with moderate eyes, handsome foliage like its male parent, Jackson's Seedling, but much dwarfer, and an excellent cropper, of the fullest garden size; flesh perfectly white, mealy, and of a first-rate flavour. I am proud of it, as it is the only Potato that I ever raised to suit my ideas, though it does not do so quite, otherwise it would be symmetrically round, with eyes perfectly smooth, and without any indentation whatever. I have crossed it with a Potato which my brother gave me, having a perfect form, though lacking flavour, and I have obtained seed for sowing next spring. I have also seed from a cross between Hogg's Cold-



stream Potato and Shutford Seedling. So here is another five-years prospect, for I never would introduce a Potato to the public under that time from the seed-apple, otherwise disappointment might be the result. For instance, last autumn I had a private seedling show, my Potato-fancier neighbours were invited, and one seedling was singled out from all the rest as being the handsomest and most to be desired. I thought so too; it was perfect to look at, but it turned out very badly this year, being the worst of the worst, and its tubers were no larger than nuts, having every one of them super-tuberculated. The Onwards is the only seedling out of thirty-seven resulting from the cross between Jackson's Seedling and the Fluke, that I think worthy of recommendation, although I have two more of the batch, one exactly like its mother the Fluke, and another intermediate in appearance between a Solanum and a Dioscorea, and producing the most diminutive top of any Potato that I know. I shall keep it as a curiosity for its ugliness, and, perhaps, another year may prove that it has good qualities.

At the beginning of September I took up the Flukes, British Queens, and a kind which I call the "Huntingdonshire Kidney," until further notice. I think it is the same that I saw at the Royal Horticultural Society's Show at South Kensington last December. It was sent to me late this spring by some unknown friend. It is not Daintree's New Seedling, which I took it to be at the exhibition last year; neither can I decidedly speak of its culinary properties, as it was planted too late. It is a very handsome Potato of the Lapstone strain, and as fair to look upon when turned out of the soil as if modelled in wax. I must for the future give up growing the British Queen here, for the ground is too good, causing it to produce enormous tops. It is a first-rate sort for stone-brash or poor garden soil. It has its associations for me; so, like the Rocks, Regents, &c., I must not altogether lose sight of it.

The mode of treatment which I adopted with the haulm was certainly one chief means of securing my present season's tubers from disease, although it prevented the early planting of the Broccolis in the trenches. The plants had grown tall and very strong by the time the Potatoes were off the ground. The trenches were then merely forked up, the plants were brought to them, and the roots and parts of the stems were laid in the trenches with their heads pointing towards the north. As each trench was finished, it was well soaked with sewage, and the roots and parts of the stems were then covered over with soil. They are now with their heads close to the ground, and, considering all things, flourishing. I shall for the future adopt this plan for late Potato trenches.

We had capital Walcheren Broccoli from the trenches between the early Potatoes, and I have now growing there Rose-herry Brussels Sprouts, very fine, but too large to suit the fashion.—UPWARDS AND ONWARDS.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

TRENCH, dig, and ridge every spare inch of ground whenever the weather will permit of these operations being advantageously performed. This is particularly to be observed in gardens, the soil of which is of a clayey nature. If frost sets in let the manure necessary for the whole of the spring cropping be wheeled out, laying it in heaps either on the spot where it is to be used, or as near to it as possible. What is not intended to be immediately dug in should be piled in small mounds, and soiled over to prevent loss from evaporation. *Asparagus*, the most convenient plan of forcing it is to transfer it to a light-pit, provided with a moderate bottom heat, duly covering the crowns with light soil, and by allowing as much sunlight and air as possible, an abundant supply of excellent *Asparagus* may be obtained. This system of removal may be considered extravagant when the destruction of the roots is considered, but its adoption in many instances could not fail to be of use, as a system might be originated of substituting young and healthy stock for anciently established and worn-out plants, whose occupation of the land has continued for many years. *Celery*, take advantage of every favourable opportunity till frost of earthing up the late crops, both for the purpose of blanching and protection. *Cucumbers*, during the present dull dark weather water should be given very sparingly; less fruit should also be allowed to swell off than in clear weather. *Lettuce*, those in frames for present use must be kept dry, and free from dead leaves. *Mushroom-house*, where hot dung supplies the heat required a little air

should occasionally be given, if the beds are found to be getting too moist, but where fire heat is used pans of water should stand on the flue to create a moist atmosphere. *Turnips*, on the first appearance of severe frost it is advisable to bring some under cover. They may be laid in sand after the tops are cut off. *Sea-kale*, there is no question but that the best flavoured and finest *Sea-kale* is obtained from established plants, subjected to no system of forcing, but merely covered with light earth or sand, and brought forward by the natural warmth of the season. Still, *Sea-kale* is demanded at Christmas, and thus a more active mode of proceeding is necessary. The old plan of covering with pots, and supplying a stimulating heat with a body of leaves, is still preferred by many; and when the additional trouble of half filling the pots with wood ashes, or sand, can be afforded, good flavoured *Sea-kale* can be secured. The more recent plan of taking up the roots and forcing them in a Mushroom-house, or any dark place, has its recommendations, both in regard to economy and rapidity of production, only if the precaution of excluding light be not effectual the flavour of the *Sea-kale* will be deteriorated. *Rhubarb*, the last-mentioned plan is equally advantageous for it.

### FRUIT GARDEN.

If any transplanting or root-pruning of fruit trees has yet to be done, let this be attended to without further loss of time and see that those exposed to the wind are securely staked before leaving them; also prepare the ground for fresh plantations, and plant the trees as soon as possible. Take every opportunity of pushing forward pruning and nailing. The roots of all newly planted trees should be secured from the effects of severe weather by mulching. Fruit trees are injured by the accumulation of moss and lichens on their branches; where the hand cannot reach them a dusting of lime will effect their destruction. In the absence of frost old walls may be pointed and limewashed.

### FLOWER GARDEN.

Now that the leaves are off the trees let lawns and shrubberies have a thorough cleaning. Examine pillar and trellis Roses, and, if the weather is favourable, see if the soil wants renovating or the kinds changing. For choice sorts roomy holes should be made, capable of containing three or four barrowloads of well-prepared soil; turfy loam of good quality is the chief ingredient, to this add a portion of rich rotten manure, and, if at hand, a little sandy peat or leaf mould. Many object to planting shrubs or trees in winter, believing that the roots if injured at that season are liable to rot; and certainly early in autumn is a far preferable season, but with weather like the present we would not delay such work a single day, and if the soil is properly prepared by drainage where necessary, as should always be done before planting, there will be fewer failures from planting now than if the work were delayed until March.

### GREENHOUSE AND CONSERVATORY.

Many of the failures in plant-growing, and the sickly and drawn character of the inmates of hothouses or greenhouses, may be fairly traced to the attempt to keep up a degree of artificial warmth totally incompatible with the amount of light. No axiom is of greater importance in gardening than that heat, as well as atmospheric moisture, should at all times be regulated by a strict reference to the amount of light. For instance: a general temperature of 55° by day may be recommended for the conservatory through December, if it is, as a house of the kind ought to be, filled with blooming *Camellias*, hybrid *Roses*, and a host of other gay flowers; this recommendation will be very suitable while the weather continue open, if, however, frost suddenly occurs, the attempt to keep up even this moderate temperature will, from the construction of most houses, soon produce bad effects if the frost continue, more especially if accompanied by a dull and lowering sky. In such cases the experienced gardener will betake himself to the minimum amount of heat, and be content with an average of 45°. The attempt to maintain an unnatural amount of heat will, of course, require the assistance of a corresponding amount of atmospheric moisture, and this, under ordinary circumstances, will have a tendency to produce drip, or at least an unnecessary condensation of steam on the flowers, the delicate texture of which cannot, at this period especially, be trifled with: hence the spotting, not to say rotting, of the delicate corollas of some of our most choice winter flowers. Above all, I would protest against much night heat, as I am of opinion that this is excessive in most establishments, and even our early-forced vineries will bear a much lower amount than is

commonly imagined; for what real progress can be made in the night? The parts in the course of development may be lengthened, but of what advantage would that be? I imagine that night coverings are of more importance than has been commonly imagined. With these a lower temperature may be permitted; radiation being so well guarded against, no surplus amount of heat need be kept up to meet these sudden depressions, which must occur in very severe weather to uncovered roofs.

#### STOVE.

Some of the early-ripened tall Cacti may now be introduced either here or in the forcing-pit, and receive a liberal watering to commence with. If, however, the blossom-buds are not well matured it is of little use forcing them. Do not encourage any fresh growths among the plants at this season, rather aim at that kind of routine management which will serve to consolidate the growth already made, and to develop the blossoms of the late-flowering things in a proper way.

#### FORCING-PIT.

This is a capital period at which to introduce a considerable bulk of things for genuine forcing-purposes. Rhododendrons, Belgian Azaleas, Persian Lilacs, Moss and Provence Roses, Sweetbriars, Honeysuckles, Kalmias, Daphnes, Rhodoras, the more advanced Hyacinths, Narcissus, Tulips, &c., may now be fairly started. A sweet bottom heat of 80° maximum and an atmospheric temperature of 65° will be necessary, whatever the structure. One thing may here be observed, and that is, that it is vain to introduce anything unless properly set for bloom; this points to the necessity of a special summer's training as long since suggested in this calendar. The great secret of success, if the heat is wholly composed of fermenting materials, is to keep down accumulating damp and mouldiness by an almost constant ventilation, increasing the linings in order to raise the necessary temperature. Those who are fortunate enough to possess a pit heated by means of hot water will, of course, pursue a somewhat different course.

#### PITS AND FRAMES.

Look well to those containing stores for next summer, and have sufficient protecting material always in readiness with which to cover them whenever the weather is unfavourable.—W. KEANE.

### DOINGS OF THE LAST WEEK.

The drizzling foggy weather still continuing has prevented us varying much our usual operations. In the

#### KITCHEN GARDEN

managed to clean up where most unsightly from fallen leaves, clearing all the principal walks of them, and of any weeds that made their appearance. Threw a little wood ashes, burnt earth, and lime on young Lettuces, &c., to keep slugs from them. Must wait for the stirring-up the surface of the ground, and earthing-up Cabbages until the ground is drier. Sowed Radishes of the long-rooted kinds in such a slight hotbed as was alluded to last week, sowing them in rows alternately with Lettuces, which come in useful for spring planting. Filled one light of such a bed with *Asparagus*, and will follow with another light in a fortnight or three weeks. When well packed, as described last year, one light holds a great many plants. After packing them a surfacing was given of an inch or so of sandy leaf mould, and washed into every cavity by means of a good watering. One inch of leaf mould was put over all, and if the heat is all right—mild, and not too strong, and the buds begin to push, then some 3 inches more will be put over that. The object is to have the *Asparagus* tender, and a good part of the top sent to table green; if afforded too much heat, and then too much air, it will become hard and stringy. Grown thus on a common hotbed it will need little more watering beyond that given as above, though, of course, the roots must not be dry. Nothing is easier to force if too much heat is not given. We have forced it like Sea-kale—in the dark, and then cut it and stood it upon damp moss in a warmish light place, such as a sitting-room window, until it acquired the desirable green tint. In reply to "EMILY," we would say that it will come well in a small warm greenhouse, where the temperature ranges from 45° to 50°, packed firmly even in her shallow boxes, if the buds are covered from 1 to 1½ inch, but, of course, placed near the heating apparatus; it will require frequent watering, with water about 60° in temperature, and a little of any sort of manure in the water will be of advantage.

*Kidney Beans*, in bearing, gave a good deal of air to them,

syringed them overhead when there was a little sun, and will put some sulphur in the evaporating-pans, to make sure, though as yet there is no appearance of thrips or anything else, which we partly attribute to the walls being dashed with lime and sulphur. Potted a lot more that had been sown thickly in boxes to save room. A good plan is to sow in small pots, and then turn out into large ones. We would rather sow in eight and ten-inch pots at once, only they take up a good deal of room at first. It is for the making the most of every bit under glass that we do not sow in drills in beds at once. *Kidney Beans* are difficult to grow in winter without fire heat in some shape or other, as to have them in perfection they need an atmosphere not saturated with moisture, and a temperature ranging from 50° to 65°.

*Cucumbers*.—We had some nice plants, but from being unable to give them heat, owing to alterations, we are doubtful if they will do much good in the pit, which was prepared too late for them. Young plants are going on nicely, and will most likely beat the older ones. Some people like these all the year round, others would rather never see them from November to May, and then a *Cucumber* gives a relish. We have kept them in common frames all the winter, but that was when we had plenty of the tussocky grass referred to last week. The frames which we used for that purpose were deep, fully 18 inches in front, and from 36 to 42 inches behind. This gave plenty of room for introducing a rough trellis of wood and wire 15 inches from the glass, and though wood is one of our worst conductors of heat, yet it does conduct, and from keeping these frames banked up right to the top with the grass, dung, and leaves, we could command in general plenty of heat, and dry heat too, the boards inside, from the heat outside, being warm and dry. Except for the regularity of the heat, flat pits heated by hot water are little better for winter work than these frames. Both admit too little light in the dark season of the year, and, therefore, more elevated houses, with plenty of heating power, are better for *Cucumbers* in winter. They are also less likely to be bitter than when grown in flat frames and pits. We have cut from frames and pits in winter nice-looking young *Cucumbers*, and we would scarcely have believed it to be true, if we had not tasted them. In some cases you might as well have taken so much soot in your mouth. The worst of it was, that there was no outward sign by which you could distinguish the mild, sweet ones from the bitter ones, except cutting them and tasting them. We have tasted some half a dozen, and found them all right, and perhaps the seventh or the eighth would be as bitter as bitter could be. We have never noticed anything of the sort in *Cucumber*-houses that had plenty of light and heat—say width 8 feet, height in front 3 feet, height at back 9 or 10 feet, and *Cucumbers* trained—say 15 inches from the sloping glass roof. Span-houses would even be better than lean-to's, if there was plenty of heating power. One word more as to winter *Cucumbers*. There are three complaints lying before us, to the effect, that *Cucumbers* that bore well, heavily, in the end of October and November, are now showing signs of giving over, when they were especially wanted at Christmas, and in January, and the dark dull weather is assigned as being the chief cause of failure. We believe there is something in that, but the heavy cropping is the chief cause. Plants intended to bear heavily right on to Christmas, should not be expected to do much more. If the same autumn plants are to continue on until spring, then they should be sparingly cropped until near Christmas. When many are wanted about this season, another set of strong plants should be kept on, that have been allowed to bear scarcely any fruit, to take the running after Christmas. Scores of times we have seen plants loaded with fruit in November, and the first part of December, but it was rarely they were worth their keep after Christmas. The vital energies of the plants are often thus exhausted, and no coaxing, or pruning, or freeing them from fruit, will ultimately benefit them.

*Mushrooms*.—Just one memorandum as to the *Mushroom*-house. We are still having small gatherings from the bed in the open shed, and the first little bed in the *Mushroom*-house is coming rather faster than we like, owing to rather much heat and steam. The bed in question is on a shelf-bed, and below it on the ground, which may be made into another bed, is a lot of fermenting material undergoing a due preparation. The heat from this made the house rather warm; but worse than this, it threw up a good deal of steam in the shape of vapour, which was condensed against the sloping roof and dropped upon the bed, making the surface too wet. We remedied the extra heat by giving plenty of air; dissipated the



steam by putting on a little fire heat along with the air; and prevented the extra air affecting the bed, or the drops of moisture falling on it, or the Mushrooms being tinged by the vapour rising from the unsweetened manure, by fastening some sticks across the bed, about 6 inches from it, and throwing mats neatly along on the sticks. Though we threw some dry turfy soil over the heap of the fermenting material, and used these means to dissipate the steam, the upper surface of the mat on the first morning after it was put on was quite wet, but none went to the bed beneath it, and the Mushrooms came all the cleaner and nicer in consequence. In bright weather the steam and vapour from the manure would have done no harm—nay, often it would have done good in maintaining a warm moist atmosphere. But for scarcity of shed-room at the time we would not have put in the manure in so rank a state in a house where beds were in a bearing condition. In general it is as well to get rid of the rank steam before bringing the material to the house, and we have a heap in a shed now undergoing its preparation. We never recollect using a mat in the same way before, but it served the purpose admirably in preventing large white Mushrooms being discoloured by drops of condensed moisture not quite so pellucid as dew. The mat thus suspended over the bed also permitted of a more free admission of air than otherwise would have been desirable to dispel the rank steam; as when Mushroom-beds have been kept for some time in a still moist atmosphere, a keen draught of air over them is very much felt. This shows the importance of not exposing bearing beds too much when making fresh ones. In the present case we attribute the extra steam to the wetness of the dung and the closeness and wetness of the weather. In our lean-to shed-like house we have openings for air in the front or north wall of the house; but as for top air, there is only a brick ventilator at each end at the apex, and generally these have been sufficient; but in all cases where manure is used at all fresh there should be several openings at the apex of the roof, say 9 inches square, so as to allow all steam that is not wanted to escape. A little dry soil thrown over a fermenting bed will also do much to keep down extra steam.

#### FRUIT GARDEN.

Very much the same as in previous weeks. Birds have commenced in earnest with Cherry and Plum trees. As the weather is so mild it must be more for amusement than from any necessity or the pinchings of hunger. We have run several strings among the trees, and tied on it pieces of white paper, white rags, &c., anything white, doing the same among Currants, among which the devastators had also been busy, and it seems to keep them away for the present. We were threatened with a complete clearing of ripe and ripening Raspberries last summer, but after liberally adorning the tops of the rows with pieces of whitish newspapers, the fruit was allowed to hang and ripen. How long such a means will act as a preventive remains to be proved, for our experience teaches us that nothing will deter them long. We have coated the buds with as nasty stuff as we could think of, and have had the satisfaction of seeing sparrows, tomits, and bullfinches carefully nipping off the nasty stuff with the points of their bills and dropping it, and then digging their beaks into the hearts of the fruit-buds. It quite surprises us to see and hear of places where the birds give little or no trouble from January to December.

#### ORNAMENTAL DEPARTMENT.

Wet as the weather was, felt under the necessity, when at all fine, of pruning plants, Roses, &c., in front of the verandah, and sweeping up the lawn, as scattered withered leaves on the green grass give a very neglected appearance when the deciduous leaves have all fallen from the trees. Worm heaps are more plentiful than ever we saw them, and may easily be got rid of in a small place by clear lime water, applied as lately detailed; but in a large lawn it is hardly worth attempting, except near the mansion. The unsightliness of the heaps may be kept down, unless when very wet, by means of a light roller. In cold pits the great point has been to give plenty of air without any wet finding its way in, and in all plant-houses to spill as little water as possible. *Justicias*, *Euphorbias*, &c., taken from the stove to the conservatory, should have the greatest care and the warmest places, and *Heaths* the airiest and the most exposed to light. Other hardwooded plants should stand in a medium position between airiness and stillness. Everything like damp should be avoided, and as houses can scarcely be secure now when open at night, the air should be given freely during the day, and fire heat given then to increase the cir-

ulation. Damped flowers and damped leaves now will soon taint the atmosphere; even washing and keeping the pots clean adds to the sweetness and healthiness of a house. In wet hours the surface of the soil in boxes and pots was stirred up with a pointed stick, and every fading leaf removed. More care of everything will be required until we pass the shortest day. After the day turns everything begins to prick up, and hence those who study economy do little in the way of forcing until that time. This does not apply to plants that naturally bloom at this time; all that is required further is to keep them in a healthy growing condition.

Bulbs that have filled their pots with roots may now be placed in more heat to force. Such things as *Snowdrops*, *Crocus*, and even *Tulips* bear no great amount of heat; but *Hyacinths* will stand almost as much as a *Cucumber*, but must be gradually hardened off before taking to the conservatory or the sitting-room. All hardy plants forcing will be better of a mild bottom heat, and to be brought on gradually at first.

All watering now should take place early in the day, that the surface of the soil may become a little dry before night. In the height of summer, the evening is the best time to water, so that the roots may thoroughly appropriate it before the next day's sun comes with its evaporating influences.—R. F.

#### COVENT GARDEN MARKET.—DECEMBER 9.

Quotations remain unchanged. The best dessert Pears comprise *Chaudmontel*, *Gloa Morceau*, and *Jean de Witte*. Good Apples are scarce. *Hothouse Grapes* and *Pines* continue plentiful. In the vegetable market the supply is ample. Potatoes continue to arrive in large quantities.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples..... $\frac{1}{2}$ sieve	1	0	to	2	Melons..... each	3	0	to	5
Apricots..... doz.	0	0	0	0	Mulberries..... punnet	0	0	0	0
Cherries..... lb.	0	0	0	0	Nectarines..... doz.	0	0	0	0
Chestnuts..... bush	8	0	16	0	Oranges..... 100	4	0	10	0
Currants, Red $\frac{1}{2}$ sieve	0	0	0	0	Peaches..... doz.	0	0	0	0
Black..... do.	0	0	0	0	Pears (kitchen)..... doz.	2	0	4	0
Figs..... doz.	0	0	0	0	dessert..... doz.	1	6	4	0
Filberts..... lb.	0	9	1	0	Pine Apples..... lb.	4	0	6	0
Cobs..... 100 lbs.	0	0	140	0	Plums..... $\frac{1}{2}$ sieve	0	0	0	0
Gooseberries..... $\frac{1}{2}$ sieve	0	0	0	0	Quinces..... $\frac{1}{2}$ sieve	3	0	4	0
Grapes, Hambro..... lb.	4	0	6	0	Raspberries..... lb.	0	0	0	0
Muscats..... lb.	5	0	8	0	Strawberries..... lb.	0	0	0	0
Lemons..... 100	6	0	10	0	Walnuts..... bush	14	0	20	0

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes..... each	0	0	to	0	0	Leeks..... bunch	0	3	to	0	0
Asparagus..... bundle	10	0	0	0	Lettuce..... per score	1	0	2	0		
Beans Broad..... bushel	0	0	0	0	Mushrooms..... pottle	1	6	2	6		
Kidney..... $\frac{1}{2}$ sieve	0	0	0	0	Mustd. & Cress, punnet	0	2	0	0		
Beet, Red..... doz.	2	0	3	0	Onions..... per bushel	3	0	5	0		
Broccoli..... bundle	1	0	2	0	pickling..... quart	0	0	0	6		
Brus. Sprouts..... $\frac{1}{2}$ sieve	2	0	3	0	Parsley..... $\frac{1}{2}$ sieve	1	0	1	6		
Cabbage..... doz.	0	9	1	6	Parsnips..... doz.	1	0	2	0		
Capsicums..... 100	1	0	2	0	Peas..... quart	0	0	0	0		
Carrots..... bunch	0	4	0	8	Potatoes..... bushel	2	6	4	0		
Cauliflower..... doz.	3	0	6	0	Kidney..... do.	3	0	4	0		
Celery..... bundle	1	0	2	0	Radishes doz. bunches	0	6	1	0		
Cucumbers..... each	0	9	1	6	Rhubarb..... bundle	0	0	1	0		
pickling..... doz.	0	0	0	0	Savoy..... doz.	0	9	1	6		
Endive..... score	1	0	2	0	Sea-kale..... basket	2	0	3	0		
Fennel..... bunch	0	3	0	0	Spinach..... bushel	2	0	3	0		
Garlic and Shallots, lb.	0	8	0	0	Tomatoes..... $\frac{1}{2}$ sieve	0	0	0	0		
Herbs..... bunch	0	3	0	0	Turnips..... bunch	0	4	6	0		
Horseradish .. bundle	2	6	4	0	Vegetable Marrows dz.	0	0	0	6		

#### TRADE CATALOGUES RECEIVED.

Messrs. F. & A. Dickson & Sons, 106, Eastgate Street, Chester.—*Catalogue of Stove and Greenhouse Plants, &c.*—*Catalogue of Forest Trees, &c.*

#### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

FORCING FRUIT, &c. (*Greenhorn*).—There is no work devoted to the subject, but if you consult "The Garden Manual" and "In-door Gardening," each of which you can have free by post from our office for twenty stamps, you will probably find sufficient information.

HOGG'S "FRUIT MANUAL" (*Rev. C. C. E.*).—It is now printing. The direction to our office is where the law directs us to put it—last on the last page.

**NAMES OF CHRYSAETHEMUMS (T. L. Mayes).**—Several of the labels were detached from the blooms when these reached us, and the flowers were so faded that it was quite impossible to make out what the colours of some of them were. The names of the varieties, so far as we can make out, are—1, Helene; 2, Madame Jaquin; 4, like Princesse Marie; 6, single flower; 7, Borthine; 9, Bijon d'Horticulture; 12, Bob; 13, Aigle d'Or; 15, Muscadet; 16, Auguste Mie; 18, General Canrobert; 20, Aimée Ferrière; 21, like Duke.

**GERANIUMS AND PELARGONIUMS DEFINED (Geranium).**—Botanists now divide the old genus Geranium into three genera, but all the bedding kinds are strictly Pelargoniums. The following will serve briefly to show the distinguishing characteristics. Pelargoniums are characterised by having usually seven stamens, and unequal-sized petals; Geraniums by having ten stamens, and equal-sized petals; and Erodiums by having five stamens.

**Book (J. B. S.).—"The Vine Manual."** It can be had free by post from our office for thirty-two postage stamps.

**WINTERING LILUM LASCIFOLIUM (T. H. J.).**—Your pots of these Liliums (rubrum and album), now in a frame, may be safely wintered there if you plunge them to the rim in soil or coal ashes, and cover the pots with from 3 to 6 inches of dry short litter. The soil being moist to begin with, they will need no water before March. You may if more convenient set the pots on the floor of any house from which frost is excluded, keeping the soil pretty dry until the shoots appear, when plenty of moisture and a light airy situation near the glass should be given.

**MUSHROOMS IN A CUCUMBER-FRAME (Idem).**—Mushrooms can be grown in an ordinary frame or pit. You may make the bed of stable-dung and leaves 18 inches thick as you propose, taking care to have these materials moderately dry, and especially the leaves, using none but oak or beech, and if they and the stable-dung were mixed and thrown into a heap, they would part with their rankness and much of their moisture if allowed to heat ten days or a fortnight; then form a bed as you propose. For three weeks or a month before making the bed, the droppings should be saved daily, or shaken from the litter, and they will be none the worse of having some of the short straws in them. The droppings are to be daily taken care of, and laid somewhere thinly, partly to dry and partly to prevent their heating. When a sufficient quantity has been collected to cover the proposed bed 5 inches thick, make up the bed and place the droppings upon it, beating firmly. The firmer, the more certain will be success. When the heat has risen, and if in ten days the temperature of the bed is not more than 90°, the spawn should be inserted about an inch below the surface, earthing the bed then with 1½ to 2 inches of light rich soil, making it very firm. On the other hand, if the heat be very violent defer spawning until it declines to a nice but not burning heat, and after spawning defer putting on the soil for three or four days, when, if the heat is still declining, earth the bed. You will require to keep the sides of the pit banked up with litter to keep out frost, and with the same object to cover the lights sufficiently with mats and straw. In six weeks from spawning the bed, according to the warmth of the pit, you may expect to see Mushrooms.

**TREES BARKED BY HARES AND RABBITS (A Man of Kent).**—Make a pint of lime mixed with gas liquor, and with this dash the stems of the trees with a brush so far up as the animals can reach, or take lime and gas tar in equal quantities, and fresh cowdung in quantity equal to both, and apply to the stems of the trees with a brush. If you do not care for appearance the stem may also be coated with a thick limewash. By the above means hares and rabbits may be prevented from barking the trees, but traps and guns are the best remedies.

**PUNTING VINES—DIGGING-IN BEDDING PLANTS (F. S. C.).**—We use equal quantities of clay and sulphur, with sufficient water to make it of the consistency of thick putty. Instead of a good it is a bad plan to dig in the stems of Geraniums, &c., at this time, whether the beds are to remain empty or to be planted with border flowers in spring. The leaves may be dug in with advantage, for they rot, as do the stems in time, but these become food for vermin, and breed fungus in the soil.

**LADY DOWNE'S GRAPES NOT KEEPING (Constant Reader).**—From the house being full of plants, and the roots in an outside border, the cracking may be attributed to the wetness of the border, and the dampness of the house, which is, probably, deficiently ventilated. We have them very fresh yet in such a house. The moulding of the berries shows the house to be damp. Keep a fire by day and give plenty of air, letting the fire go out at night.

**INSECT DESTROYING FRUIT IN THE RED (Wm. Shields).**—There is no doubt about the insect that shows itself in the middle of the trusses of the bloom of your Cherry, Pear, and Apple trees being a small caterpillar. We recommend you to wash the trees with a mixture of sulphur 2 lbs., soft soap, 2 lbs., mixing them together in a gallon of warm water until dissolved. Boil 1 lb. of the strongest tobacco for half an hour in three gallons of water, then strain and add it to the other ingredients, as well as half a gill of turpentine. This is to be applied to every part of the trees with a brush. If a little clay were added so as to give it the consistency of thin paint, the mixture would adhere much better and longer. When the trees are untied the wall should be washed with soot and lime mixed with sufficient boiling urine or liquid manure, which cannot be too strong, in order to give it the consistency of limewash. Apply this wash to the wall, and what with the brushing and the nature of the ingredients many insects on the wall will be destroyed. When the buds begin to swell, syringe the trees with soapsuds, or what is better, 2 ozs. soft soap dissolved in a gallon of water. Keep a sharp look out, and when you find the buds are eaten, examine the trusses, the inside of the flowers, and the under sides of the leaves, which are all likely places for the insect to lurk in, and if it appear curled up squeeze it, and by beginning early and persisting in this course you will be able to keep the enemy down. When the blooming is over syringe the trees with a soft-soap solution (2 ozs. in a gallon of water), continuing this once a week till the Cherries stone, and with the Pears and Apples up to July. Still keep your eye on the leaves, and whenever a curled leaf is seen, inside it a small grub may be found, or if the leaves are eaten, the grub that did it will not be far away, and may be found in a short time. The above is the only remedy we know of.

**HORSE SEWAGE (A Reader).**—When we said that house sewage would injure fruit trees, it was in reply to a question whether it could be applied to them advantageously at this season. It should only be applied during their growing period.

**FERNS DYING OFF IN WARDIAN CASE (C. B.).**—From the Ferns growing and sending up fresh fronds which only grow a few inches and then die off, we should say that they are all right at the root, and, besides, they do well in coco-nut refuse, which is like mahogany sawdust, but they do not do at all well in coco-nut fibre, which is light, bristly, wire-like stuff. Perhaps if you were to give a little air—say half an inch or so, the moisture would not condense so much on the glass so as to require to be wiped off every morning, which shows that the atmosphere is very damp, and the young fronds would not go off but develop fully. We think a little air would make all the difference. There is no work that we know of giving minute directions for the management of a Wardian case. Sufficient directions for the culture of Ferns in glass cases are given in the "Fern Manual."

**SALT AND LIME (S. M. J.).**—The best proportions for an acre are thirty bushels of lime and fifteen bushels of salt mixed together. We should spread it on the surface by hand just before digging down the turf.

**BOOKS FOR A YOUNG GARDENER (T. W. H.).**—The "Cottage Gardeners' Dictionary," 5s.; Keane's "In-door Gardening," 1s. 6d.; Keane's "Out-door Gardening," 1s. 6d.; Johnson's "Science and Practice of Gardening," 3s. You can have them all free by post from our office if you add 2d. more to each for postage, except the last, which is 3s. 4d.

**VINES FROM EYES—WHITE GRAVES (A Subscriber).**—Vines from eyes are much better than those raised from hyers, because the roots and shoot are formed simultaneously. In the former case the shoot is formed first and the roots afterwards, and the wood of the shoot is never of that firm consistency and consequent early fruit-bearing character as in cases when the plant is raised from an eye. The following are ten of the less tender White Grapes that will do in your vinery. Early Summer Frontignan, White Frontignan, Chasselas Vibert, Prolific Sweetwater, Royal Muscadine, Chasselas Musque, Early White Malvasia, Foster's White Seedling, Due de Malakoff, Buckland Sweetwater, Early Smyrna Frontignan, and General della Marmora.

**SELECT GOOSEBERRIES AND CURRANTS (Ballinacree).**—Red.—Ironmonger, Warrington, Kern's Seedling, Red Champagne, Wilmot's Early Red, and Scotch Naimog. Yellow.—Early Sulphur, Glory of Rutledge, Rockwood, Kumballion, Yellow Ball, and Yellow Champagne. Green.—Green Gasconne, Green Prolific, Green Walnut, Heart of Oak, Hebburn Prolific, and Fitzmaston Green Gage. White.—Bright Venus, Crystal, Early White, Hedgehog, White Champagne, and Whitesmith. CURRANTS.—Black.—Black Naples. Red.—Red Dutch, Cherry, and Ruby Castle. White.—White Dutch.

**GLAZED SOUTH WALL (A Constant Reader).**—If the wall with the south aspect is high—say from 12 to 15 feet, the simplest plan would be to plant the Peach trees against the wall, and from 15 to 20 feet apart. Your pathway then might be some 3 feet from the wall, and you could have a few other things either in pots or planted out in front; but not sufficiently high to shade the wall. If you preferred a shady walk in summer, then it would be best to plant the trees in front, and train to a trellis 15 inches from the glass up to the apex of the roof; but in this case you could make little use of the back wall after the fruit trees filled their space. In either case the fruit would ripen well without any artificial heat. If you could make up your mind to give a little heat, then such a covered walk might be made very attractive by planting the Peaches in front, as stated above, and planting the back wall with Camellias and Oranges. These would not find fault with extra heat, and a good deal of shade in summer, and they would be very attractive in winter and spring when the Peaches were destitute of foliage. We have never done anything this way ourselves for want of an opportunity, but numbers of houses have been so done on our advice, and have given great satisfaction.

**ANTS—PEACH APRICOT (Inquirer).**—You could not pour boiling water down by the wall without killing the roots and stem of the tree if the boiling water touched them. We advise you to sprinkle granular lime over the nest now, and again in spring when the ants are on the move, and to pour a watering-potful of liquid manure once a week into the nest, heated to 120°, up to the time of the fruit changing colour, when, if the ants still remain, a little sulphur sprinkled over the nest will drive the most of them away. You may keep them from ascending the tree by a band of gas tar an inch wide along the bottom of the wall, and a similar ring around the stem of the tree. The Peach, or Gros Peche, Apricot is one of if not the finest of Apricots; the Moorpark is a seedling from it.

**TEMPERATURE OF STOVE—EVAPORATION-TROUGHS IN WINTER (Dunbartonshire).**—The temperature of the stove from October to March may be from 55° to 60° by fire heat or by night, and 65° by day without sun, 75° with sun and air freely given, and for the remainder of the year it may be from 60° to 65° by night, 75° by day on dull days, and 85° with sun and air. In March the temperature is to be gradually increased until the requisite degree shall be attained, an increase of 2° per week being sufficient, and in autumn the decrease should be gradual. The evaporating-troughs should be empty from October to March, unless you wish the plants to grow instead of rest, when, of course, a growing heat will be desirable, and they should have water in them.

**PRUNING ROSES (Tasmanian).**—Your Roses planted last November should be pruned next February, or early in March during mild weather, the strong shoots to five, the moderately strong to three, and the weak to two eyes, cutting out the very weak, and those that cross each other quite closely. The mangleing of straw and leaves should have been removed in spring, it being now time to replace it by fresh, allowing it to remain until March, then removing it, and pointing the ground neatly over. Roses that have been established for years should be pruned in February, or March, to two or three eyes.

**REMOVING FIGS (Idem).**—Remove all the Figs larger than a hazel nut with the point of a sharp knife. Those now of full size will not ripen though they have begun to colour.

**TAXODIUM BARLESS ON ONE SIDE (Idem).**—You may remove the old rotten wood, but if not decayed it would be better to leave it alone, and to plaster the wound or wood over with clay mixed and kneaded to the consistency of soft soap with fresh horse droppings rubbed through a half-inch sieve, and fresh cowdung—of all three equal parts. Work them to the consistency of soft putty, or mortar, and with this plaster the scar level with the bark. It should be made smooth, and be gone over in three or four days, closing the cracks. When it becomes old replace it by fresh, and you will find the bark grow over the dead wood each year a little, until in time the part is completely grown over. The colour of the plaster is no eyesore.



**GRAFTING OLD APPLE TREES (An Amateur).**—Cut off the branches now at the point where you propose grafting, and when the sap rises in spring, which will be known by the buds of the other trees swelling, then pare the outer surface of the cut a little, and choosing a smooth part of the bark, make an incision 2 inches in length through the bark from the crown of the stock downwards, and which may be opened by thrusting in a thin piece of wood or with the point of a knife. The graft or scion should, in the first place, be cut transversely below a bud, and on the other side, 2 or 3 inches above the bud, place a knife and make a sloping cut downwards, bringing the knife out immediately below and quite close to it, or thin at the lower end. This is to be thrust in between the bark and wood where the incision is made in the stock, and down to the point where the sloping cut in the scion ends. If the crown of the stock is thick, another graft may be put in on the other side, opposite to and corresponding with the first. If the scion have two good eyes above the crown of the stock it is sufficient, moderately strong wood being the best for grafts. Bind tightly with a strip of bast matting soaked in water, and cover with grafting clay. This may be made of good clay, beaten and kneaded to the consistency of dough, horse-droppings passed through a sieve with half-inch meshes, and fresh cowdung, all three in equal parts, incorporating and kneading them together until uniformly mixed so as to resemble soft putty. With this composition cover the crown and the sides of the stock so far as the scions extend, closing nicely, smoothly, and evenly, as if the clay crack or have openings air will be admitted to the wounds, and the stock and graft will not unite well. Go over the clay in three or four days, afterwards closing the cracks, if any. When the grafts begin to grow, and have made shoots 3 inches in length, the clay and the bandage should be removed, tying to the stock a stake half an inch or so thick, and coming about 1 foot above the crown of the stock, and by the side of the scion or graft, which is to be tied to it to guard against the scion being blown out; it may remain for a year or two to maintain the graft in its place, until the latter shall have become firmly and immovably united to the stock. The grafts, if they do well, will make strong shoots the first year, and bear the third. The method above described, and cleft grafting are the best modes, when the crown of the stock is more than 3 inches in diameter.

**PROPAGATING CINERARIA MARITIMA (Idem).**—It strikes best from slips, or those shoots that come from the crown or base of the plant, which may be removed in April, or whenever they are to be had, potting them in light sandy soil, and plunging the pots in a mild hotbed—75°, and in a fortnight or three weeks they will be well rooted, and being hardened off, will make fine plants by the end of May if put in in April. The seed should be sown in the first week in March in a hotbed, and the seedlings, when large enough to handle, pricked off at an inch or 1½ inch apart, still continuing in heat; hardened off and plant out in May.

**GRAFTING VINES (Idem).**—Your cutting back the Vines in pots to two or three eyes is right, growing them on for fruiting another year. Glendinning's Seedling Vine we do not know, but you say it is not so satisfactory as you could wish, and you, therefore, propose grafting it with Black Hamburg. Very well, we should advise you to keep two Black Hamburg Vines in pots, set the pots near the Vines to be grafted, measure the canes of the young Vines by placing these against the Vines to be grafted, and, choosing a smooth part of the stocks, place the canes so that they may fit that part. Cut off the beads of the young canes two eyes above where they fit the old Vines nicely, and take out all the eyes below except two at the bottom of the young Black Hamburg, from which two shoots will come in spring, one of which is to be allowed to grow, and the other should be rubbed off. The two eyes above will give two shoots, and when they and the Vines to be grafted have made shoots 6 inches long, take a slice of the smooth part of both, 2 inches long, exactly corresponding. Halfway along this cut in the stock, which may be one-fourth its thickness, place the knife and bring it downwards three-quarters of an inch, and in a sloping direction halfway through the stock. Withdraw the knife and place the scion by the stock, you will then see where the cut in the stock ends, from there make a slanting cut upwards corresponding to that in the stock, halfway through it and three-quarters of an inch in length. Join stock and scion together, slipping the tongue of the graft into the slit of the stock, making the two fit exactly and so that the edges may correspond, or, at least, on one side; bind tightly with bast matting, and if done neatly it will be sufficient to keep out the air, though a little moss may be placed over the graft after binding with matting. Tie the shoot of the scion to the staff, cutting away the weakest shoot and retaining the strongest. Just below the point of union on the scion tie a piece of string as firmly as possible to arrest the downward flow of the sap, allowing stock and scion to grow, and so you may have fruit on the stock, and another kind inarched upon it growing up by it to take its place when the fruit is cut. The head of the stock is then to be cut away immediately above the union. In six weeks the union will be complete, when the scion or part of it below the union is to be cut off, and the bandage entirely removed. It should have been loosened at the end of three weeks, which we have omitted to mention before, binding it again, but not so tightly as at first. If the part of the stock above the union is not to remain for its fruit, then cut it off at once, and the vigour or strength of the stock being thrown into the graft it will make a very strong cane. The inarching should be done as near the bottom of the Vine as practicable. The Vine in the pot furnishing the scion will be as good as any for furnishing a cane to fruit another year, having the upper part cut away after the operation is completed. This mode of grafting Vines is so sure and so easily performed, and may be done without experiencing the loss of a crop, that we think it very suitable for amateurs not having much experience in grafting.

**ESPALEER TREES MOSSY AND BURDEN (A. C.)**—It would be well to remove the moss by scraping it off without injuring the bark, and then paint them with a wash of lime and soot in equal parts, with sufficient boiling liquid manure to give the consistency of thick paint, applying the mixture at 160° with a brush to the branches, rubbing it well into every crack, hole, and crevice. Remove the old soil from about the roots, and replace it with fresh soil and half-reduced dung; tread it firm, but not at all if the soil be wet. This may probably give them another lease of life.

**PLANTS FROM THE CONTINENT (An Old Subscriber).**—*Ibiscus esculentus* produces capsules commonly used in the West Indies in soups and pepper pots under the name of Okro. Its sulphur-coloured flowers are handsome. It is an annual in this country. *Solanum melongena* is the Egg-plant, and you will find it in the "Cottage Gardener's Dictionary," which you say you have, under the head *Solanum*. We do not recognise the small pea-like seed called Kovi.

**SEAWEED FOR VINES, PEACHES, &c. (A Constant Reader).**—It may be used as a top-dressing on Vine and all fruit-tree borders, pointing it in in spring, or digging it in when fresh. As a manure its enriching qualities are soon exhausted, its effects not extending beyond the first year. We know of no bulbs that would flourish better than others in soil having sea sand mixed with it, all would do so fairly.

**REMOVING FIGS FROM TREE OUT OF DOORS (Idem).**—It is not too late to remove fruit from Fig trees. They should be cut off with a knife, which is better than pulling them off, and they are better removed than allowed to remain, as from your tree receiving little protection the fruit will perish or drop off in spring.

**GRAFTING ROSES (Roseana).**—The small spring prunings will do to graft, but shoots neither strong nor weak are the best. You may plant the stocks in the open ground, and graft them early in March, but for the grafts to take well out of doors it is desirable that the stocks should have been planted a year. As yours have not, we should advise your potting the stocks now, or you may defer doing so until after grafting. The scion is to be inserted in the main stem, and the nearer the soil the better, for it is desirable to have the union covered with soil. Whip-grafting is the surest mode of grafting Roses, but when the stock is much thicker than the scion, cleft grafting may be practised; but it is not so safe as the first. Being an amateur, you would, no doubt, like to know of an easy and comfortable mode of performing the operation. Proceed, then, as follows:—Lay the stocks in by the heels until the last week in February, and then make up a hotbed of well-sweetened dung and leaves, a yard or so high, and in a week the heat will be up, and be just so warm that if the hand be put into the bed the heat can be borne comfortably. A few inches of light dryish soil or sawdust should be put over the bed inside the frame, which may be an ordinary one, and whilst the plunging material is warming, graft before potting in this manner; cut off the head of the stock 3 inches above the roots transversely, and take a slice of bark and a little wood from one side of the stock where the bark is clear and free from knots. Lay this down, and take up a shoot of the Rose, about 6 or 7 inches long, and pare its lower end quite thin, till it fits exactly in length and breadth the place whence the slice of bark and wood was taken from the stock; join the stock and scion together, binding firmly with strong mat or bast soaked in water, and cover with clay so as to leave no crack. If the stock when potted, as it is now to be in its grafted state, will allow of the soil being brought so high as to cover the union of stock and graft, the clay may be omitted; in this case cover it firmly with mould, leaving but a couple of eyes of the scion above the soil. Place in the hotbed, and keep as close as possible. If the union is not covered with soil in the pots, then it is desirable after plunging, or at the time, to cover the union with old tan or sawdust, leaving two or three eyes or buds only uncovered. A temperature of bottom heat of 75° is suitable. Keep the frame close until the shoots are put forth, and when they are 2 or 3 inches in length air may be admitted by propping up the lights, and gradually hardening off; the plants will be fit to plant out in the end of May or early in June. If you proceed by cleft grafting, cut off the head, as in whip-grafting, without a tongue, transversely, immediately above a bud. On the opposite side cleave the stock an inch or so, and not through the stock. The graft, with three or four eyes, is to be cut at its lower end to fit the cleft in the stock exactly, leaving a bud on the thick side if possible; open the cleft with the point of a knife and insert the graft, being very careful, and it is a main point, that the barks of both stock and graft should be perfectly even. Bind with mat twisted, and cover with clay, or grafting wax (which is made of Burgundy pitch 1 lb., ¼ lb. common pitch; beeswax, 2 ozs., and mutton fat ½ oz., melted, and applied with a brush), covering the side of the stock operated upon, and also the top of the stock. Afterwards plunge the pots in a gentle hotbed, as recommended for Rose whip-grafted. Cleft grafting is only desirable when the grafts are small.

**CALADIUMS, APHELANDRIA, CROTON, AND CYANOPHYLLUM IN VISERY (A Well-wisher).**—These will do very well with the pots plunged in the tan with which the pit has been or is to be filled, and which must be fresh or partly so in order to raise a bottom heat of about 95° at first. The pots should not be more than half plunged at first; afterwards increase the depth, or place more fresh tan about the pots. The plants should not be placed in the house until the temperature is 55° by night, which, as you commence with the Vines in February, will not be attained until the end of March, from which time the plants will do fairly until the end of September, when they must be removed to a house having a temperature of at least 55° or 60°, 5° more being none too high for Caladiums in winter.

**MANURING VINE-BORDER (Idem).**—As you will cover the border with 18 inches to 2 feet of dung a fortnight prior to commencing forcing, it will not be necessary to give the border a dressing of manure now, for the covering will enrich the border sufficiently. To help you to overcome the red spider, coat the Vines with sulphur and clay in equal parts, made to the consistency of thick paint with water in which soft soap has been dissolved at the rate of 8 ozs to the gallon; apply it with a brush rubbing it into every crevice. This, and syringing the Vines up to the time of their changing colour, will enable you to keep red spider under.

**RUSTIC POTTERY.**—"I see in your Number of November 28th, you ask for the names of manufacturers of rustic pottery. There is a man here (Castle Hedingham), who ought to be known more than he is. His ware is very good, and his things are very well designed and very well executed, and his prices very reasonable. His name is Bingham, and his direction is, Castle Hedingham, Halstead, Essex, and as he is a neighbour of mine and, I think, a very clever fellow, I should be very glad to get him custom."

[This is no interested recommendation, but from a gentleman who wishes to serve a workman whom he considers meritorious.]

**HOTBED FOR STRIKING CUTTINGS (F. T. C.).**—You have not searched our back Numbers or you would have found at pages 376 and 442 of Vol. VIII., New Series, directions for making a hotbed, together with the mode of putting in cuttings of Verbena, Lobelia, Petunias, &c., and it is applicable to every other kind of bedding plant in spring, or at any other season; whilst at page 157 of the present Volume the striking of cuttings in cold frames is given; that of Geraniums without even a frame is furnished at page 187. Geraniums will strike well enough in a greenhouse in September without any extra heat, and if you keep your greenhouse so hot on account of the bedding plants as to force the Vines it is not good for either, but injurious to both at this season, it not being necessary to force bedding plants at all. We really do not see the cause



of complaint, nor what it is you wish to know; if at the pages named you do not find sufficient information.

WALL VINERY (*Springfield*).—We think your plan will answer well. A sketch and some comments shall be published next Tuesday.

NAMES OF FRUIT (*J. H. Malden*).—1, Easter Beurre; 2, Beurre Diel; 3, Dutch Mignonne; 4, Cobham. (*J. B.*).—The Pear, Easter Beurre; Apples: 1, Pigeonnet; 2, Nonpareil; 3, Reinette Van Mons; 1, Golden Reinette. (*D. M.*).—1, Golden Winter Pearmain; 2, Christie's Pippin; 4, Golden Noble; 5, Toker's Incomparable; 6, Wormsley Pippin. (*H. B.*).—1, Flower of Kent; 2, Herefordshire Pearmain; 3, Lady's Finger;

4, Hoary Morning; 5, Dutch Mignonne; 6, Golden Reinette; 7, Crasanne; 8, Beurre de Rance. (*N. M.*).—Pears: 1, Winter Nellis; 2, Beurre Diel; Apples: 1, Nonpareil; 3, Scarlet Nonpareil. (*R. H. A.*).—1, Glou Morceau; 2, Catillac; 3, Tressor; 4, Vicar of Winkfield. Apple not recognised. (*C. R.*).—1, Chaudmont; 2, Beurre Diel; 3, Golden Reinette. The plants were destroyed by mistake. (*A. P.*).—4, Bergamotte de Printemps; 6, Urbaniste; 10, Beurre Derouinon.

NAMES OF PLANTS (*A Subscriber*).—Correspondents should send Orchid flowers in boxes—1 and 2, Calathea? crushed; 3, Eranthemum leucocentrum. (*J. B.*).—1, Abutilon; 2, Coronilla omerus.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending December 9th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 3	29.590	29.466	49	35	47	48	S.W.	.02	Foggy; showery; fine at night.
Mon. . . 4	29.752	29.286	51	36	47	43	S.	.00	Hazy clouds; overcast; slight rain.
Tues. . . 5	29.726	29.596	50	40	43	47	S.W.	.00	Fine; cloudy; overcast at night.
Wed. . . 6	29.997	29.887	53	46	44	47	S.	.00	Densely and uniformly overcast; warm south wind.
Thurs. . 7	30.233	30.151	52	47	49	48	S.	.22	Densely clouded and mild; rain.
Fri. . . 8	30.492	30.467	49	44	50½	48	S.W.	.00	Hazy uniform haze overcast at night.
Sat. . . 9	30.473	30.491	47	36	50	48½	S.W.	.00	Foggy; hazy; foggy; overcast; barometer high and rising.
Mean..	30.050	29.893	50.14	40.57	48.50	47.78	....	0.24	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### THE POULTRY CLUB.

THE annual Meeting was held at Birmingham. Some fresh members were elected. A Show, to be named "The National," is fixed for January 29th at Rochdale, under the auspices of the Club. A vote of censure on the Birmingham Committee relative to the Judges was proposed, but withdrawn. A Committee was appointed to inquire if it would be desirable for the Club to publish a fortnightly Journal.

### THE BIRMINGHAM POULTRY SHOW.

WHILE most of the Shows that gave fair promise, some years since, of being annual, and of lasting out many of those who assisted at their start have ceased to be; the first of them all, the Birmingham and Midland Counties, has not only last week attained its seventeenth anniversary, but seems to get strength with age. In all particulars it improves. The zeal, knowledge, experience, and unflinching integrity with which all matters concerning this great Show are handled by the gentlemen who compose the Council, and who, without personal interest of any kind, devote much time to it, deserve no less credit. Many persons had doubted this year whether there would be any exhibition. It was feared that owing to the disease among cattle they could not be admitted, and then it was thought they would put off the poultry also. We can state authoritatively it was never intended to put off the poultry, even had the cattle been given up for one year. It required courage to hold an exhibition of cattle, while even small local markets were being closed, because of the danger of allowing animals to be brought in contact with each other; but fortune, as usual, favoured the bold, and although there was a falling off in the numbers of the beasts, there was none in their quality. The numbers that were there not only afforded a treat, and an assuring fact in these days of pestilence, but they showed that the owners appreciated, and were disposed to support those who trusted in them.

In that part of the Show with which we have more particularly to do there was no falling off. Nothing could be more gratifying than the numbers and merit of this great exhibition as they appeared last week before the public. A few facts will carry more conviction than any mere explanation or assertion. When this Show began it was considered a good Duck that weighed 5 lbs., 6 lbs. was a large one. This year the first-prize Aylesburies weighed 10 lbs. each; there were the exceptions, but there were many that weighed over 8 lbs. Roman Ducks were formerly neither numerous nor well understood; half of those shown were disqualified for glaring faults of plumage, and weight was never thought of; now, not only are they more numerous than the Aylesburies, but thirty or forty pens are shown without a disqualification, and, when the scales are brought into action, it is found that these have attained nearly to 9 lbs. each, while between 7 and 8 may be almost called an average. Improvement is not, however, confined to these birds, nor to weight. The beautiful Buenos Ayrean Duck was required to be smaller, and more striking in green metallic lustre, and again we have to note in a numerous class there was a close approach to perfection. Ducks will not, however, have all the honours. The Goose so intimately associated in anecdotes with our Virgin Queen and the Armada, which, according to report, was said by that glorious lady to be a stupid bird, "too much for one, not

enough for two," now reaches the comfortable weight of 29 lbs.; 9 used to be about the fair average. Now, no record is ever put against the name of those that weigh only 18 lbs. each; the very assistants turn up their noses, and condemn them as weighing nothing at all. What can be said of a dish for two, consisting of 20 lbs. of good Goose? In these classes we have to notice an event that has only occurred twice in our recollection—the White were heavier than the Grey. Turkeys are still in progress; a few years since it was necessary to show a cock and two hens. It was thought an exploit when the three reached 50 lbs. weight—such easily gained first prize. This year, however, when two birds only were shown, they weighed 47 lbs. It may not be amiss to call attention to this fact, that, thanks to the institution of poultry shows, by societies like the Birmingham and Midland Counties, opportunities for choosing stock, for gaining information, and the desire for success in competition, have resulted in the production of birds, accomplishing no less a desideratum than the same amount of food on two birds that was originally produced by three. This is no small exploit. Poultry is at last becoming a food question, not only as regards the carcases, but as providing delicious and nourishing diet in the shape of eggs. A million of eggs per day imported throughout the year, amount to a large sum of money, and there is no doubt that with proper pains-taking much of it might remain in the United Kingdom. As a list of the prizetakers appeared in our columns last week, we shall now content ourselves with reviewing the different classes, making such comments as may seem to be called for.

There were 132 pens of *Bockings*, forming a very meritorious class. Many of the cocks weighed upwards of 10 lbs. each, and we were glad to find there were few crooked breasts. There was but slight difference in the prize pens. Admiral Hornby's two; Capt. Lane's, and Viscountess Holmesdale's, all were very large all in perfect condition. Six prizes did not satisfy the requirements of the chickens; but there were no more to give. Admiral Hornby again stood first, taking precedence (for this occasion only) of Viscountess Holmesdale, Lady Bagot, and Mrs. Arkwright. Twenty pens figured in the prize sheet. Lady Holmesdale showed the best hens, and Mrs F. Blair was prizetaker in this, as in several other classes. No mean exploit. The pullets were not as good as the hens. We can speak most highly of the white birds of this breed, they had size and quality.

The adult *Spanish* were deficient in numbers, but good in quality. We miss, nevertheless, the high type of those shown formerly by Messrs. Bake and Davies. Mr. Lane's birds were good, and Messrs. Rout and Bull sent very favourable specimens. The classes for hens and pullets, especially the latter, were scantily filled. If they are not better represented it will be a question whether they should not be diminished.

The adult *Cochin-China* class was one of the best we ever recollect. Many of the birds had all the merits of old and young. The hens in Mr. Cattell's pen were really perfect specimens. The pen sold for £25. Mr. Stretch's birds, Mr. Tomlinson's, and Mr. Bates's, were all most excellent. The chickens were not as good as the adults, nor as good as they have been some previous years. Messrs. Nelson, Stretch, Heaton, and White, deserved the success they met with; while many were in trouble owing to their vulture hooks. The hens and pullets of this breed mustered well, twenty-four pens; but vulture hooks were again numerous, and disqualified some otherwise good pens. Mr. Stevens and Mr. Jennison showed the best birds.

The *Grouse* and *Partridge* classes filled well with good birds; but the old difficulty of finding cocks with thoroughly black breasts still exists. Mr. Stretch was very successful in these classes, as was Mr. Tudman. Indeed, if we add the name of Capt. Heaton, we shall describe all the winners of the ten prizes offered.



Whites were very good, and by the side of an old exhibitor, Mr. Chase, a new name earned frequent mention—The Rev. F. Taylor.

*Brahma Pootras* are becoming large and important classes. Mr. Lavy and Mr. Boyle showed beautiful pens of adults. The chickens were equally good, but in many of these there is a tendency to vulture backs. Breeders must avoid them. Mr. Statter's and Mrs. Hurt's birds were very beautiful.

For the first time, there were classes for *Light Brahmas*, Mr. Pares, took all for adults; Mr. Clark, and Mr. Crook, for chickens. These birds will become favourites.

*Malays* were excellent, but they do not increase in numbers.

The next was a new class, and successful, inasmuch as it produced twenty pens—*Cree Cwars*. Mesdames Blinkhorn and Hurt took all the prizes.

Twenty-eight pens of *Black Hamburgs* justified the institution of the class last year. They were very good, but there were symptoms of white faces, as well as white deaf-ear in many of them. This must be avoided.

*Golden-pencilled Hamburgs* were beautiful, most beautiful, many of them were pencilled up to the tip of the tail, and their condition left nothing to desire. We are compelled to refer our readers to the prize list for the names of the successful, merely observing they deserved their honours.

The *Silvers* were very good, but not quite so good as their predecessors.

The *Golden-spangled Hamburgs* appear to have been lately bred with exceeding care, and, consequently, showed pens of great merit. The *Silvers* were good also. Sir St. G. Gore showed a good pen of adult birds.

The *Polands* were all good, but as usual deficient in numbers. We can except the *Silvers*, which formed a remarkable class. The varieties that took prizes were "La Flèche," "Cuckoo Dorkings," "Andalusians," and "Japanese."

The *Game*, as usual, formed an exhibition of themselves. We thought we observed in very many of them a tendency to legginess, a length of thigh that would have been condemned by the old cockers, who only viewed them as fighting birds. The condition of all these birds was startling. The Brown Reds especially seemed made of heart of oak, and painted. They looked as though clothed with one feather, and their hard condition seemed to strive to break through it. There were, however, indications that it is hard work to win against such competition as Birmingham. We saw birds in the Black Red classes that had lost honours by the presence of a few red feathers on a black breast. The great contest is in Black and Brown Reds. Duckwings are comparatively weak, and the other classes small. In calling attention to any more superior than usual, we must ask our readers to notice all the prizetakers.

The "single classes" were each of them more than many small shows. Thus twenty-three Dorking cocks were named in the prize lists, and nearly all were sold directly the show opened. Spanish were highly meritorious. Cochins very good. The most remarkable among the others, *Brahma Pootra*, and *Golden-spangled*, and *Pencilled Hamburgs*. Gold-faced Bantams were very good, especially the pen belonging to Rev. G. S. Cruwys. The *Silvers* were not as good. The Blacks and Whites were beautiful, especially the latter. We thought the first-prize White pen one of the best we ever saw. The competition was very severe in the class. The *Game Bantams* were many of them perfect. Thirty-seven pens in the different classes were distinguished by the Judges, and many others might have asked the same distinction.

Assuring our readers that the birds in the following classes were in every respect perfect, we will content ourselves with giving the weights of the different pens. Aylesbury Ducks—30lbs., 27lbs., 25lbs. Rouen Ducks—26lbs., 25lbs., 21lbs. White Geese—58lbs., 43lbs., 36lbs.; 35½lbs. Grey Geese—56lbs., 52lbs., 43lbs., 42lbs., 41½lbs. Turkeys, 47lbs., 46lbs., 45lbs., 40lbs., 36lbs., 35½lbs.

We shall have farther details to give next week, when all the statistics will be prepared. At the time when we go to press everything had gone on as it always does at Birmingham. The different Stewards and members of the Council, Messrs. Luckcock, Matthews, Shackel, Wright, Lowe, Mapplebeck, Adkins, Sabia, and others, were all at their posts. They deserve the hearty thanks of all amateurs, and we sincerely hope that, as usual, they will reap a rich reward in the well-doing of the Show, and the benefit it conferred on their fellow townsmen.

**DORKING (Coloured).**—Highly Commended, Mrs. F. Blair, Inchemartine, Inchemartine, N.E.; E. Tadmán, Ash Grove, Whitechurch, Salop; W. H. Denison, Hardwicke Cottage, Woburn, Bedfordshire; H. Lingwood, Barking, Needham Market, Suffolk. Commended, T. Tatham, Kingsthorpe, Northampton. *Chickens*.—Highly Commended, Duke of Newcastle, Clumber, Worksop; Mrs. Arkwright, Etwell Hall, Derby; Sir J. D. Wauchope, Bart., Newton House, Millerhill, Dalkeith, N.E.; The Rev. A. Kingscote Cornwall, Bencumb, Dursley; J. D. Hewson, M.D., Cotton Hill, Stafford; Lady Bagot, Blithfield Hall, Rugeley; J. Longland, Grendon, Northampton; O. E. Cresswell, Hanworth Rectory, Hounslow, Middlesex. Commended, Admiral W. Hornby, Knowlesy Cottage, Prescott; J. White, Warby, Northallerton, Yorkshire. *Hens*.—Highly Commended, J. Robinson, Vale House, Garstang. *Pullets*.—Highly Commended, Rev. E. Cadezan, Walton Parsonage, Warwick; Lord Stanhope, Bretby Hall, Burton-upon-Trent; C. Cork, Shoreham, Essex.

**DORKING (White).**—Highly Commended, H. Lingwood, Barking, Needham Market, Suffolk. *Chickens*.—Highly Commended, D. Parsons, Cuddon, near Preston.

**SPANISH.—Chickens.**—Highly Commended, W. R. Bull, Newport Pagnell, Bucks. Commended, J. Shortrose, Shieldfield Green, Newcastle-upon-Tyne; Miss Douglas Pennant, Penrhyn Castle, Bangor. *Pullets*.—Highly Commended, W. Boué, 18, Park Street, Bristol.

**COCHIN-CHINA (Cinnamon and Buff).**—Highly Commended, H. Tomlinson, Balsall Heath Road, Birmingham; G. H. Perkins, Spark Hill, Birmingham; Capt. H. Heaton, Lower Broughton, Manchester. *Chickens*.—Highly Commended, J. Heape, Ladypool Lane, Sparkbrook, Birmingham; R. W. Boyle, Galtrim House, Bray, Co. Wicklow, Ireland; J. Shortrose, Shieldfield Green, Newcastle-upon-Tyne. Commended, Mrs. F. Blair, Inchemartine, Inchemartine, N.E.; C. Pease, Southend, Darlington. *Hens*.—Highly Commended, C. W. Brierley, Rhodes House, Middleton, near Manchester; Capt. H. Heaton, Lower Broughton, Manchester; G. Fell, Springfield, Warrington; J. Stephens, Walsall; Rev. C. Spencer, College House, Attleborough, Norfolk; J. Cattell, Lime Villa, Bristol Road Edgaston, Birmingham. Commended, H. Bates, Vintage House, Yaxley, near Birmingham. *Pullets*.—Highly Commended, T. Boucher, 106, Bull Street, Birmingham; Mrs. R. White, Broomhall Park, Sheffield; Rev. C. Spencer; R. Adams, Grosvenor Road, Handsworth, near Birmingham; Miss J. Milward, Newton St. Loe, Bristol; C. Pease, Southend, Darlington. Commended, G. Fell, Springfield, Warrington.

**COCHIN-CHINA (Brown and Partridge Feathered).**—Highly Commended, T. Stretch, Ormskirk. *Chickens*.—Highly Commended, Capt. H. Heaton, Lower Broughton, Manchester. *Hens*.—Highly Commended, E. Tudman, Ash Grove, Whitechurch, Salop. *Pullets*.—Highly Commended, W. Gamon, The Green, Thornton-le-Moors, near Chester.

**COCHIN-CHINA (White).**—Highly Commended, Rev. F. Taylor, Keastwick, Kirby Lonsdale; R. Chase, Tyndal Street, Balsall Heath, Birmingham. *Chickens*.—Highly Commended, Rev. F. Taylor. Commended, Mrs. Williamson, Queenborough Hall, Leicester.

**BRAHMA POOTRA (Dark).**—Highly Commended, Rev. W. H. Fell, Stalmine, near Fleetwood, Lancaster. Commended, Rev. J. R. Young, Whitnash Rectory, Leamington. *Chickens*.—Highly Commended, Rev. W. H. Fell; Mrs. Hurt, Alderwasley, Derby; R. W. Boyle, Galtrim House, Bray, Co. Wicklow; Mrs. F. Blair, Inchemartine, Inchemartine; Capt. H. B. Linc, Lily Hill, Bracknell, Berks. Commended, J. K. Fowler, Prebendal Farm, Aylesbury; "Cactus"; Rev. W. H. Fell.

**BRAHMA POOTRA (Light).**—Highly Commended, Mrs. F. Blair, Inchemartine, Inchemartine. *Chickens*.—Highly Commended, J. Pares, Childown Hall, Chertsey; E. Pigeon, Lymington, near Exeter.

**MALAY.**—Highly Commended, G. Hastler, Stillingfleet, York. Commended, W. Wood, Fir House, Walkley, Sheffield. *Chickens*.—Highly Commended, Rev. A. G. Brooke, Bryton XI, Towns, Salop.

**CREVE-COEUR.**—Highly Commended, The National Poultry Company, (Limited), Bromley, Kent, S.E.; A. Dixon, Birches Green, Birmingham. *Chickens*.—The National Poultry Company.

**HAMBURGH (Black).**—*Chickens*.—Highly Commended, R. F. Goodwin, Middleton, near Manchester; E. Collinge, Boarshaw Clough, Middleton, near Manchester; C. Sidwick, Ryddlesden Hall, Keighley; G. Lingard, jun., Snow Hill, Birmingham.

**HAMBURGH (Golden-pencilled).**—Highly Commended, C. Tattersall, Myrtle Grove, Waterfoot, near Manchester. *Chickens*.—Highly Commended, C. Tattersall; E. Pittis, jun., Newport House, Newport, Isle of Wight. Commended, Hon. T. W. Fitzwilliam; Viscountess Holmesdale.

**HAMBURGH (Silver-pencilled).**—*Chickens*.—Highly Commended, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. Commended, E. J. W. Stratford, Wombourne, near Wolverhampton; A. K. Wood, Burnside, Kendal; D. Hyding, Middlewich, Cheshire. *Hens*.—Commended, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. *Pullets*.—Highly Commended, E. Pittis, jun., Newport House, Newport, Isle of Wight.

**HAMBURGH (Golden-spangled).**—Highly Commended, R. Tate, Green Road, Leeds. Commended, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire. *Chickens*.—Highly Commended, S. H. Hyde, Taunton Hall, Ashton-under-Lyne; W. Bayliss, Wednesbury Road, Walsall. Commended, Sir St. G. Gore, Bart.; J. Palmer, Wednesbury; A. K. Wood, Burnside, Kendal.

**HAMBURGH (Silver-spangled).**—*Chickens*.—Commended, Mrs. Pettat, Ashe Rectory, Basingsale; Rev. W. Serjeantson, Acton Burnall Rectory, Shrewsbury; J. Hope, Napier Street, Werneth, Oldham; W. Parr, Patricroft, near Manchester; A. K. Wood, Burnside, Kendal. *Hens*.—Highly Commended, Miss A. M. S. Hurt, The Knoll, Derby; J. Leech, Newcastle, Staffordshire. Commended, I. Davies, Bull Street, Harborne, near Birmingham. *Pullets*.—Commended, Messrs. T. May and T. Blakeman, Bloomsbury Street, Wolverhampton.

**POLISH (Black with White Crests).**—Highly Commended, T. P. Edwards, Lyndhurst, Hants. *Chickens*.—Highly Commended, T. P. Edwards; P. Unsworth, Sandy Lane, Loxton, near Warrington. Commended, P. Unsworth.

**POLISH (Golden).**—Highly Commended, H. Beldon, Goitstock, Bingley, Yorkshire.

**POLISH (Silver).**—Highly Commended, G. C. Adkins, The Lightwoods, near Birmingham; H. Beldon, Goitstock, Bingley, Yorkshire; R. F. Williams, Glasllyn, Clontarf, Dublin. *Chickens*.—Highly Commended, G. C. Adkins, The Lightwoods, near Birmingham.

**GAME (Black-breasted Reds).**—*Chickens*.—Highly Commended, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire; H. M. Julien, Whitefriar Gate, Hull. Commended, T. J. Charlton, Salt Street, Manningham, Bradford, Yorkshire.

**GAME (Brown and other Reds, except Black-breasted).**—Commended, S. Mathew, Chilton House, Stowmarket, Suffolk; W. Webster, Steely, near Worsley. *Chickens*.—Highly Commended, J. Wood, Mont House, Wigan; W. Gamon, The Green, Thornton-le-Moor, Chester; E. Aykroyd, Gillingford Road, near Bradford, Yorkshire; J. Wood, Mont House, Wigan; Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire; G. Clements, Newtown Row, Birmingham; Capt. Adams, Ansty Hall, Coventry; J. Anderson, Ruthven House, Meigle, N.B.; T. Burgess, Burleydam, Whitechurch, Salop.

**GAME (Blue-breasted and other Reds).**—*Hens*.—Highly Commended, J. Wood. *Pullets*.—Highly Commended, W. Cox, Brailford Hall, Derby; C. Minors, Sudbury, Stoke-upon-Trent; E. Aykroyd, Gillingford Road, near Bradford, Yorkshire; W. Gamon, The Green, Thornton-le-Moors, near Chester; J. Wood; J. W. Kelleway, Merston, Isle of Wight. Commended, T. Robinson, Poolar Grove, Ulverston; J. Anderson; T. T. Burman, Lady Lane, Hockley Heath, near Birmingham.

**GAME (Duckwings, and other Greys and Blues).**—*Chickens*.—Commended, Col. W. Blackburne, Claremont House, Leamington.



**GAME PULLETS** (Except Black-breasted and other Reds).—Highly Commended, T. West, St. Ann's, Eccleston, near St. Helen's, Lancashire; J. Sunderland, Coley Hall, near Halifax, Yorkshire.

#### SINGLE COCKS.

**DORKING**.—Highly Commended, Mrs. Hurt, Alderwasley, Derby; J. Smith, Henley-in-Arden; J. Shorthose, Shieldfield Green, Newcastle-upon-Tyne; Lord Bagot, Blithfield Hall, Rugeley; R. B. Postans, Brentwood, Essex; T. Tatham, Kneethorpe, Northampton; W. W. Bartlam, Henley-in-Arden; W. Endall, Beaudesert Park Farm, Henley-in-Arden; Rev. J. G. A. Baker, Old Warden, Biggleswade; J. Robinson, Vale House, Garstang. Commended, Lord Bagot; Mrs. Young, Easington Vicarage, Stratford-upon-Avon; T. Rushin, Ravensthorpe, Northamptonshire; Rev. J. G. A. Baker, Old Warden, Biggleswade; Rev. M. Amplett, Church Leuch Rectory, Evesham; Lord Stanhope, Brethay Hall, Burton-upon-Trent.

**SPANISH**.—Highly Commended, E. Draper, Primrose Hill, Northampton; A. Heath, Calne, Wilts; W. R. Bull, Newport Pagnell, Bucks; J. Shorthose, Shieldfield Green, Newcastle-upon-Tyne. Commended, W. R. Bull.

**COCHIN-CHINA** (Cinnamon and Buff).—Highly Commended, R. White, Broomhall Park, Sheffield; T. Boucher, 106, Bull Street, Birmingham; R. Adams, Grosvenor Road, Handsworth. Commended, T. Stretch, Ormskirk; T. Tatham.

**COCHIN-CHINA** (Except Cinnamon and Buff).—Commended, Capt. H. Henton, Lower Broughton, Manchester.

**BAHAMA POOTRA**.—Highly Commended, Mrs. Hurt, Alderwasley, Derby; F. Sabin, Bull Street, Birmingham; R. W. Boyle, Galtim House, Bray, Co. Wicklow.

**HAMBURGH** (Golden-pencilled).—Highly Commended, Rev. R. Roy, Skirbeck, Boston, Lincolnshire; C. Tattersall, Myrtle Grove, Watford, near Manchester. Commended, C. Sidgwick, Ryddlesden Hall, Keighley; T. Wrigley, jun., Tonge, Middleton, near Manchester.

**HAMBURGH** (Silver-pencilled).—Highly Commended, Rev. R. Roy, Skirbeck, Boston, Lincolnshire; J. Holland, Chesnut Walk, Worcester.

**HAMBURGH** (Golden-spangled).—Highly Commended, H. Beldon, Gostock, Bingley, Yorkshire; W. Kershaw, Heywood, near Manchester; J. Buckley, Tamton, near Ashton-under-Lyne, Lancashire. Commended, S. Mills, jun., Caldmore Cottage, Walsall; H. E. Emberlin, Hamberstone, Leicester.

**HAMBURGH** (Silver-spangled).—Highly Commended, Rev. W. Serjeantson, Acton Burnell Rectory, Shrewsbury.

**GAME** (White and Piles, Duckwings, and other varieties except Reds).—Highly Commended, J. Halsall, Ince, near Wigan.

**GAME** (Black-breasted Reds).—Highly Commended, J. Fletcher, Stoneclogh, near Manchester; J. H. Williams, Spring Bank, Welshpool; C. H. Peacocke, Carrigaun-Greine, Dalkey, Dublin.

**GAME** (Brown and other Reds, except Black-breasted).—Highly Commended, M. Billing, jun., Wood End, near Birmingham; W. Webster, Steelley, near Workson; J. Palmer, Wednesbury; E. Aylroyd, Gillington Road, near Bradford, Yorkshire; Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire; J. Wood, Moat House, Wigan.

**BANTAMS** (Gold-faced).—Highly Commended, M. Leno, The Pheasantry, Markyate Street, near Dunstable, Bedfordshire; G. Manning, Chapel House, Springfield, Essex.

**BANTAMS** (White, Clean-legged).—Highly Commended, Rev. G. S. Cruwys, Cruwys Morchard Court, Tiverton, Devon; H. Mapplebeck, Woodfield, Moseley, Birmingham; H. Draycott, Humberstone, near Leicester. Commended, C. W. Brierley, Rhodes House, Middleton, near Manchester.

**BANTAMS** (Black, Clean-legged).—Highly Commended, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire; R. Swift, Southwell, Notts.

**BANTAMS** (Any other variety except Game).—Highly Commended, E. Pigeon, Lymington, near Exeter (Japanese); R. W. Boyle, Galtim House, Bray, Co. Wicklow.

**GAME BANTAMS** (Black-breasted Reds).—Highly Commended, J. W. Kellaway, Merston, Isle of Wight; R. B. Postans, Brentwood, Essex; R. Swift, Southwell, Nottinghamshire; Rev. G. Raynor, Kelvedon Hatch Rectory, Brentwood, Essex; J. Crosland, jun., Wakefield, Yorkshire.

**GAME BANTAMS** (Any other variety).—Highly Commended, R. Hawksley, jun., Southwell, Nottinghamshire; C. W. Brierley, Rhodes House, Middleton, near Manchester; J. W. Kellaway, Merston, Isle of Wight; J. Percival, Clent Villa, Harborne, near Birmingham; Rev. G. Raynor, Kelvedon Hatch Rectory, Brentwood, Essex.

**GAME BANTAM COCKS** (Black-breasted and other Reds).—Highly Commended, Rev. A. K. Cornwall, Bencombe, Dursley, Gloucestershire; Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire; T. J. Charlton, Salt Street, Manningham, Bradford, Yorkshire; R. B. Postans, Brentwood, Essex; Rev. G. Raynor, Kelvedon Hatch Rectory, Brentwood, Essex; H. Shumack, Brook Cottage, Southwell, Nottinghamshire; R. Boddington, 176, Bristol Street, Birmingham; J. Mann, Shawclough, Newburch, near Manchester.

**DUCKS** (White, Aylesbury).—Highly Commended, Mrs. Seamons, Hartwell, Aylesbury, Bucks; W. Fowler, jun., Wood End Cottage, Erdington, near Birmingham; S. Lang, jun., The Shrubbery, Redland, near Bristol; — Hollis, Broad Street, Reading.

**DUCKS** (Rouen).—Highly Commended, J. Mann, Shawclough, Newchurch, near Manchester; J. Holme, Knowlesy, Prescot; T. Robinson, Poplar Grove, Ulverston; S. Shaw, Stainland, Halifax; — Hollis, Broad Street, Reading; J. Robinson, Vale House, Garstang; E. Longton, Woolton Mills, Liverpool.

**DUCKS** (Black East Indian).—Highly Commended, J. Beasley, Brampton House, near Northampton; F. W. Earle, Edenhurst, Hayton, Liverpool; T. Ballance, Sydney House, Homerton, near London. Commended, Mrs. Wolferstan, Stafford Hall, Tamworth; Mrs. Hayne, Fordington, Dorchester.

**DUCKS** (Any other variety).—Highly Commended, Sir St. G. Gore, Bart., Hopton Hall, Wirksworth, Derbyshire.

**GESE** (White).—Highly Commended, J. Logan, Maidee House, Newport, Monmouthshire; J. Faulkner, Brethay Farm, Burton-upon-Trent.

**GESE** (Grey and Mottled).—Highly Commended, Col. North, M.P., Wroxton Abbey, Banbury; Mrs. F. Blair, Inchmartine, Inchture, N.B. *Goslings*.—Highly Commended, Mrs. F. Blair; J. K. Fowler, Prebendal Farm, Aylesbury.

**TURKEYS**.—Highly Commended, W. Winterton, Wolvey Villa, Hineckley (Cambridge); — Worthington, Temple Farm, Wolvey, Hineckley (Mixed); Mrs. A. Guy, Eaton, Grantham. Commended, J. Faulkner, Brethay Farm,

Burton-upon-Trent; G. P. Smith, Lower Eaton House, near Hereford. *Poult.*—Highly Commended, Mrs. F. Blair, Inchmartine, Inchture, N.B. Commended, W. Lort, jun., The Cotteridge, King's Norton.

#### PIGEONS.

**ALMOND TUMBLERS**.—Commended, J. Ford, Monkwell Street, London. **CARRIER** (Black).—*Cock*.—Highly Commended, W. Sunday, Holme Pierrepont, Nottingham; A. P. Leite, Ryland House, Oxford Road, Manchester; M. Hedley, Redhill, Surrey. *Hens*.—Commended, A. P. Leite, Oxford Road, Manchester.

**CARRIER** (Any other colour).—*Cock*.—Commended, A. P. Leite, Ryland House, Oxford Road, Manchester.

**POWTER** (Red or Blue).—*Cock*.—Commended, G. A. Dickson, Watgate Street, Chester; M. Hedley, Redhill, Surrey. *Hens*.—Highly Commended, A. P. Leite, Oxford Road, Manchester.

**POWTER** (Any other colour).—*Cock*.—Highly Commended, A. P. Leite, Ryland House, Oxford Road, Manchester. Commended, A. Heath, Calne, Wilts. *Hens*.—Commended, W. Choyce, jun., Sibson, near Atherstone, Warwickshire.

**BALDS**.—Highly Commended, F. Esquilant, Effra Road, Brixton, London, S.

**BEARDS**.—Highly Commended, T. H. Ridpath, Manchester. Commended, J. Fielding, jun., Yorkshire Street, Rochdale.

**TUMBLERS** (Any other colour).—Highly Commended, J. Ford, Monkwell Street, London.

**RENS**.—Highly Commended, A. P. Leite, Oxford Road, Manchester.

**PANTAILS** (White).—Highly Commended, F. Elze, Westbourne Grove, Bayswater.

**TRUMPETERS** (Mottled).—Very Highly Commended, J. Baily, jun., Mount Street, Grosvenor Square, London.

**OWLS** (Blue or Silver).—Highly Commended, A. P. Leite, Oxford Road, Manchester. Commended, F. Esquilant, Effra Road, Brixton, London.

**TURTLES** (Red or Yellow).—Very Highly Commended, S. Shaw, Stainland, Halifax; H. Mapplebeck, Woodfield, Moseley, Birmingham.

**BARBS** (Black).—Highly Commended, M. Hedley, Redhill, Surrey.

**DRACOONS** (Blue).—Very Highly Commended, J. Percival, Montpellier Road, Peckham Rye, London. Highly Commended, H. Yardley, Market Hall, Birmingham.

**DRACOONS** (Any other colour).—Highly Commended, H. Yardley, Market Hall, Birmingham; T. H. Ridpath, Poplar House, Rusholme, Manchester. Commended, E. L. Corker, High Street, Croydon, Surrey; E. Pigeon, Lymington, near Exeter.

**MAGPIES**.—Highly Commended, J. N. Beasley, Erapton, Northampton; E. E. M. Roys, Greenhill, Rochdale. Commended, S. Shaw, Stainland, Halifax.

**ANTWERPS**.—Highly Commended, T. H. Ridpath, Poplar House, Rusholme, Manchester.

### YORKSHIRE SOCIETY'S EXHIBITION.

This was held at York on the 7th, 8th, and 9th instant.

**DORKING** (Any colour).—First, J. White, Warlaby, Northallerton. Second, C. Pease, Southend, Darlington. Highly Commended, P. T. F. Martin, Rawcliffe, York. *Chickens*.—First, M. Hunter, Green Hammerton. Second, C. Pease. Highly Commended, Mrs. Ledgard, Poppleton Hall.

**SPANISH**.—First, H. Beldon, Gostock, Bingley. Second, G. Jackson, Pearly Grove Street, York. *Chickens*.—First, H. Beldon. Second, T. Greenwood, Dewsbury.

**COCHIN CHINA** (Yellow or Buff).—First, H. Beldon. Second, T. H. Barker, Hovingham.

**COCHIN CHINA** (Black or White).—Prize, O. A. Young, Driffield.

**COCHIN CHINA** (Grouse or Partridge).—First, J. Wood, Brinsall Hall, Chorley. Second, J. Bell, Thirsk.

**COCHIN CHINA CHICKENS** (Any Colour).—First, L. Thompson, Sheriff Hutton Park. Second, H. Beldon. Highly Commended, L. Thompson.

**GAME** (Black-breasted or other Reds).—First, G. Pounder, Kirbymoorside. Second, J. Darbyshire, Green Hammerton. Highly Commended, W. Bearpark, Ainderby Steple. Commended, R. Tate, Leeds.

**GAME** (Duckwings).—First, T. Cleminson, Darlington. Second, H. Whiteley, Womersley. Pontefract. Highly Commended, T. Nettleton, Knaresborough.

**GAME** (Any other variety).—Prize, J. Hodgkinson, Hull. *Chickens*.—First, T. Cleminson. Second, M. Hunter.

**HAMBURGH** (Golden-pencilled).—First, G. Winterburn, Birks, Guiseley. Second, H. Beldon. Third, J. Eckett, Heslington.

**HAMBURGH** (Silver-pencilled).—First, H. Beldon. Second, S. Widdows, Chorley. Third, R. Sherwood, Claines, Worcester.

**HAMBURGH** (Golden-spangled).—First, H. Beldon. Second, R. Tate. Third, O. A. Young.

**HAMBURGH** (Silver-spangled).—First, H. Beldon. Second, C. Outram, Sheffield. Third, W. Bourmes, Crookes, Sheffield.

**POLISH** (Gold or Silver-spangled).—First and Second, H. Beldon.

**POLISH** (Any other variety).—First, R. Jessop, Hull. Second, H. Beldon.

**ANY FARMYARD, OR OTHER CROSS**.—First, R. Loft, Woodmansey, Beverley. Second, T. Jolly, Warlaby.

**BANTAMS** (Game).—First and Second, E. Loder, Little Carlton, Notts. Third, W. E. Entwistle, Otley. Highly Commended, Lady Hawke, Womersley Park; G. Holmes, Great Driffield; A. Cattle, Tower Street, York.

**BANTAMS** (Laced).—Prize, J. Thackray, Hessey, York.

**BANTAMS** (Any other colour).—First, J. R. Jessop, Hull. Second, H. Beldon. Commended, P. T. F. Martin, Rawcliffe, York.

**ANY PURE BREED, NOT PREVIOUSLY CLASSED**.—First, G. H. Roberts, Penwortham, Preston. Second, T. Jolly. Highly Commended, R. Loft.

**TURKEYS**.—First, J. S. Tonge, York. Second, Lady Hawke. Highly Commended, Mrs. Carr, Bossall. *Poult.*—First, J. S. Tonge, Second, Mrs. Carr. Highly Commended, J. Warneford, jun., Dunnington. Commended, L. Thompson.

**GESE**.—First, O. A. Young. Second, H. Beldon. Highly Commended, The Ladies Wentworth Fitzwilliam, Harrowden House, Wellingborough. Commended, H. Saville, Rufford Abbey, Notts.

**DUCKS** (Aylesbury).—First and Second, M. Harrison, Warter, Pocklington. Highly Commended, O. A. Young.

**DUCKS** (Rouen).—First, H. Beldon. Second, E. Graham, Aldbrough.



DUCKS (Any other variety).—First, T. C. Harrison, Hull. Second, W. F. Entwisle.

SELLING CLASS.—First, W. F. Entwisle. Second, H. Beldon. Third, G. S. Thompson, Moorlands, York.

EXTRA STOCK.—First, A. Cattley, Tower Street, York (Carolina Drake). Second, J. Bannister, Fridaythorpe (Geese).

#### PIGEONS.

A silver cup, value £5, given by the Pigeon fanciers of York, for the best pair of Carriers, Powters, or Short-faced Tumblers, First, J. Fielding, jun., Rochdale. Second, A. P. Leite, Manchester. Highly Commended, F. Else, Westbourne Grove, Bayswater; W. Massey, Fulford; J. Thackray, York; J. R. Robinson, Sunderland. Commended, H. Yardley, Birmingham.

CARRIER (Any colour).—Cock: First, W. Massey. Second, E. Horner, Harewood. Highly Commended, A. P. Leite; T. Colley, Sheffield. Commended, H. Simpson, jun., Whitby; R. Fulton, Deptford. Hen: First, A. P. Leite. Second, F. Else. Highly Commended, A. P. Leite; R. Fulton. Commended, H. Simpson, jun.; W. Massey.

POWER (Any colour).—Cock: First, S. Robson, Brotherton, Barton Salmon. Second, R. Fulton. Highly Commended, A. P. Leite. Commended, W. R. Rose, Cranley Hall, Kettering. Hen: First, R. Fulton. Second, W. Ashworth, Sheffield. Highly Commended, W. Ashworth.

TUMBLERS (Short-faced, any colour).—First, A. P. Leite. Second, J. Hawley, Bingley. Highly Commended, H. Yardley; H. Simpson, Newark.

TUMBLERS (Any other variety and colour).—First, G. Fletcher, Acomb Landing. Second, T. C. Taylor, Middlesborough. Highly Commended, J. Hawley.

FANTAILS (Any colour).—First, F. Else. Second, J. Taylor, Newark. Highly Commended, H. Simpson, Newark. Commended, H. Yardley; T. Hives, Nottingham.

TRUMPETERS (Any colour).—First, H. C. Oates, Besthorpe, Newark. Second, W. Else. Highly Commended, J. R. Robinson, Sunderland.

BARBS (Any colour).—First, W. Massey, Fulford. Second, J. Gell, Union Terrace, York. Highly Commended, A. P. Leite, Manchester; J. Gell, York; J. Thackray, Petergate, York.

JACOBS (Any colour).—First, E. Horner, Harewood. Second, T. Else, Westbourne Grove, Bayswater, W. Highly Commended, J. Thackray, York. Commended, W. H. Oates, Besthorpe, Newark.

TOURBIS (Any colour).—First, Messrs. C. and E. Roys, Greenhill, Rochdale. Second, J. Fletcher, Acomb Landing, York. Highly Commended, A. Middleton, Newport.

OWLS (Any colour).—First, W. Ashworth, Owlerton, Sheffield. Second, J. J. H. Stockall, Broad Green, Liverpool. Highly Commended, T. Hives, Colgrave, Nottingham.

ANY OTHER NEW OR DISTINCT VARIETY.—First, J. R. Trenman, Helmsley. Second, H. Beldon, Goitstock, Bingley. Highly Commended, C. J. Samuels, Longsight, Manchester; J. Parker, Oakworth Hall, Keighley. Commended, F. Key, Beverley; T. Watson, Heworth, York.

SELLING CLASS (Pigeons, cock and hen, of any breed).—First, J. Thackray, York. Second, W. Massey, Fulford. Third, C. J. Samuels, Longsight, Manchester.

#### RABBITS.

LOP-EARED (Buck).—First, G. F. Jones, Bootham, York. Second, R. Dobson, Holdgate Road, Yoad. Third, Messrs. C. and E. Roys, Greenhill, Rochdale.

LOP-EARED (Doe).—First and Second, T. Ridpath, Rusholme, Manchester. Third, M. Millington, Heworth.

HIMALAYAN.—First and Second, A. Cattley, Tower Street, York. Highly Commended, J. R. Jessop, Hull.

DUTCH.—First, T. Heppell, Spencer Street, York. Second, H. Ridley, Hall Field Lane, York. Highly Commended, S. Hall, Union Street, Margaret Street.

ANY OTHER VARIETY.—First, J. Mollett, Cattle Market, York. Second, J. J. Shouksmith, Micklegate, York.

EXTRA STOCK (Cross-bred Does).—Commended, G. W. Fall, Walmgate, York.

The Judges were, of Poultry, Mr. T. Dodds, Warren Cottage, Wakefield, and Mr. J. O. Jolly, Green Hammerton. Pigeons and Rabbits, Mr. J. Smith, Freedom Road, Sheffield, and Mr. W. Smith, Beech Hill, Halifax.

### THE BIRMINGHAM AWARDS.

I AM credibly informed that when the Game Bantams were judged it was no longer daylight. I presume that the awards were not made in the dark, though from what I know of them I could almost believe that; and I am perfectly sure of this, that the Council would not care a straw whether they were or not. But pray let me ask this most courteous, most obliging body whether they think it just, anything like just, to exhibitors so to limit the number of Judges as to render it certain that their labours cannot be concluded whilst daylight lasts. I maintain that to do so is simply robbing us of our entry fees, for it is utterly impossible to come to a just decision on the merits of fowls like Game Bantams by candlelight.

It is evident that the Council are determined to have their own way. Well, let them; we have the remedy in our own hands. I am not a member of the Poultry Club; but if the members of this will pledge themselves individually not to exhibit in Bingley Hall again until the legitimate wishes of exhibitors are attended to, I will do so too, and I doubt not that many others will join us. Why do not the Club start an opposition show? I am sure if they would do this, and guarantee that a sufficient number of efficient Judges should be engaged, that exhibitors would gladly send their birds where

they would be honestly and fairly judged. If any guarantee fund were required I would subscribe ten guineas towards it with pleasure.—P.

[For the present, and until we have further information, we shall refrain from all criticism on the awards our correspondent condemns; but we are reliably informed that no awards were made except by daylight, and that the only part of the Judges' duties performed by gaslight was weighing where this was needed.—Eds.]

### DORKINGS AT THE MANCHESTER POULTRY SHOW.

HAVING what I consider, a very fine Silver-Grey Dorking cock that I wished to enter for the above Show, in Class 1, which is for Coloured Dorking cocks of any age, I sent in my entry-form describing my bird, and was informed by the Secretary, Mr. G. Jennison, that he would be disqualified, and that there was no class for Silver-Grey Dorkings, and that I had better enter the cock with two hens (if I had them), in Class 51, for extra stock. Now, I have entered the same cock with two hens in some of the other leading shows as Silver-Greys, and they have been admitted into the class of Coloured Dorkings, as I reasonably expected they would be anywhere. The Secretaries of the Shows I allude to, which are those of Darlington and Kendal, have assured me by letter that they see no irregularity in thus entering my birds. These have also been accepted in the class of Coloured Dorkings at other places. How is this? What is allowed, I think I am right in saying, at all the leading Shows should be allowed at Manchester. If it cannot be done, I, for one, shall be glad to give my guinea, if others will do the same, in order to establish a special class for Silver-Grey Dorkings at the next Manchester Show.—Geo. R. SMITH, Scarborough.

[There can be no doubt that Silver-Grey Dorkings come within the comprehensive term "coloured;" but those well versed in poultry have considered them sufficiently distinct from Dorkings having the plumage characterising what are called "Coloured Dorkings" to give them a separate class. Thus, at the Birmingham Poultry Show just concluded, "Cuckoo Dorkings" were exhibited in the "Any other distinct variety" class. If the Committee of a Poultry Show determined to admit Silver-Greys among the Coloured Dorkings we do not think the Committee would be wrong, but the best authorities are for the contrary practice. We dare say that Mr. Jennison will readily have a special class for Silver-Greys, if a sufficient number of subscribers respond to your suggestion.—Eds.]

### BEE COMMOTIONS AND QUEEN ENCASEMENTS.

THE apiarian readers of the Journal, are, I have no doubt, in common with myself, greatly obliged to Mr. Lowe for the very interesting chapter which he gave us at the beginning of the year, entitled "Bee Commotions and Queen Encasements." He has graphically and truthfully described the different circumstances and conditions under which our hives are occasionally thrown into a peculiar state of movement and agitation. With these many of us are familiar, and, consequently, a statement of them had only to be made in order to command our assent. The hints which he has thrown out are invaluable to the inexperienced apiarian, and very refreshing to the better informed. They also show Mr. Lowe to be possessed of powers of acute observation, and to have an intimate acquaintance with the economy of the hive. In again advertising to the subject of queen imprisonments, I am aware that I can advance nothing new, and I am scarcely in a position, even if I desired it, to confute his arguments or contradict the conclusions at which he has arrived. On the contrary, I can endorse much of what he has advanced—but I believe it is as yet premature to take up decided views with regard to the cause of regicidal attacks.

In the first kind of commotions referred to by Mr. Lowe—that which takes place on the removal of a queen from a newly hived swarm—he says the bees ultimately desert the hive and return to the parent stock. This, no doubt, generally happens; but I have seen a little comb in the hive induce the bees to remain for about a week, and then, when desertion took place, it was not to the parent stock, but to any hive that would



receive them. The other two kinds of commotion coming under Mr. Lowe's first class—namely, those which arise from the removal of a queen in summer when there is brood in the hive, or in winter when there is none, are very accurately described.

It is, however, to what he calls the second-class of commotions, that the scientific apiarian's attention is chiefly directed. These, we are informed, are distinguished from other commotions by the agitation being comparatively local, by the prominent part taken in it by the younger bees, and particularly by the strange fluttering noise which may be distinctly heard in the interior of the hive. This peculiar noise, which in a glass hive sounds like a continuous half-suppressed wail of distress, no one who has heard it once can fail to recognise a second time. It is just the sound that is emitted in all circumstances in which a queen is encased by bees.

Now, as we have reached the season of the year when little can be found in the apiary to engage attention, it may not be uninteresting to take another glance at some of the statements advanced in Mr. Lowe's new chapter.

Regarding the queen, then, which was encased by her own subjects, after being released from imprisonment in a strange hive, I am inclined to think Mr. Lowe may, by mistake, have removed the wrong queen. If the introduced queen were ever lost sight of, or not distinctly marked, it would be impossible to identify her again. I have seen both a reigning and a strange queen encased on the floor-board of a common straw hive within a few seconds after the introduction of the latter and a small number of attendants. It is possible that a short period of imprisonment by strange bees may serve to imbue a queen with a particular odour so that her own subjects may not immediately recognise her, but this can only be expected to happen in warm weather. An injury to the queen is not likely to result in an encasement; for, as Mr. Lowe proves in his case 1, tattered wings and deprivation of a leg did not prevent one of his from being a prolific mother, and receiving all due homage. Nor do I believe the fact of a queen being reared artificially has anything to do with encasements. That queens produced naturally are much, if at all, superior to those raised artificially, is very questionable. In both cases I find those that first emerge from the cells faultless. I confess, however, that I am not in love with the youngest or last born of an artificial batch. They are sometimes unfortunate, and often diminutive.

As to the conditions or elements of success in artificial swarming, there must not be wanting, if I understand Mr. Lowe, the presence of drones in the young queen's hive. Now, I apprehend, the presence of drones in the apiary only, if there be fine weather, abundant food, and an overflowing population, is all that is needed towards successful artificial swarming; for Mr. Lowe knows very well that young queens are not prone to mate with the drones of their own hives. In the majority of cases, pure Italian queens though reared amid thousands of pure Italian drones, will go and contract marriage with those of the black species, if within reach. It is next to impossible to prevent Ligurian and common bees sited within a mile of each other from crossing.

There are two conclusions which Mr. Lowe arrives at—viz., that queens may be imprisoned when superannuated and infirm from age, from any natural defect in their procreative powers, or from being unfecundated beyond a certain age, and when in an abnormal condition. Encasements in such circumstances I am inclined to think are merely accidental. To my mind the cases adduced hardly warrant the inferences drawn from them; for in case No. 1, page 80, the queen, though unprolific and languid, is not stated to have been aged or even encased, and her successor may just have been an instance, like that of Mr. Woodbury, of a second queen, whose rearing began in inexplicable circumstances. In No. 9 the queen was four years old, but she does not appear to have been languid or unprolific. In No. 13 the queen was five years old and encased, but she turned out to be drone breeder. She being in a box hive, Mr. Lowe may not have been able to preserve indubitable proof of her age, and I can imagine his supposed aged queen to have been a supplanter, one that, unobserved by him, came into existence out of season, and that would, consequently, prove a drone breeder. These remarks will also apply to No. 5, but Mr. Lowe will, perhaps, explain by what means he ascertained the different ages of his queens.

The other conclusion come to by Mr. Lowe is this, that queens may be imprisoned or encased by reason of the en-

trance of stranger bees into the hive. In this conclusion I am at present disposed to agree, although I am aware that it meets with no favour from that talented and distinguished correspondent "A DEVONSHIRE BEE-KEEPER."

Here let me remark that by "stranger bees" I do not mean marauding or robber bees. With Mr. Woodbury I believe these characters are intent upon plundering only. Rarely, if ever, when destroying a hive do they put its sovereign to death, or even into durance vile. These, though strangers, are not the bees that obtain peaceable access to neighbouring hives—on the contrary, every attempt made by such to pass sentinels on the watch, meets with most determined resistance. By "stranger bees," then, I mean those bees which, without any intention of plundering, find their way into other hives than their own.

That bees, which are not plunderers, do obtain unchallenged entrance to other hives than their own can scarcely be disputed. The time spent in the new, but usurped, dwelling, may be longer or shorter according to circumstances, but if in their peregrinations over the combs, one or more of these bees approach the queen and find she is not their own sovereign, a regicidal note will be sounded, the regicidal frenzy will take possession of the hive, and the queen will be immediately imprisoned. That a marauding bee, as related by Mr. Woodbury at page 995, should have failed to excite the frenzy in its attack upon the queen is to me not surprising; for it will be observed that at the moment the marauder made the assault his bees were in another kind of frenzy—they were concerned about the safety of their queen. When once the regicidal mania is awakened it does not immediately subside, and during its continuance a sharp look-out is kept at the entrance of the hive. Dense knots of regicides may also be seen at a considerable distance from that in which the queen is encased.

It may be stated as a principle, that bees which are conscious of possessing a queen, or unconscious of not having one, will not tolerate the presence of a foreign sovereign; whereas bees that are conscious of being without a sovereign will readily and peaceably accept of any other. If a queen from any cause perish in winter, the bees for a long time may be unconscious of their loss, or, if conscious of it to-day, they may, by getting into a hibernating state, be unconscious of it to-morrow. In this condition it would be dangerous to present them with a new queen; but arouse the hive—make the bees run about and discover that their sovereign is gone, and they will readily receive any queen offered to them with demonstrations of joy. In an empty hive the absence of a queen is soon detected by the bees; but in a hive with combs the discovery may not be soon made, and if the loss be unfelt the labours of the hive will be continued. Now apply this principle. Present a queen to bees that are conscious of having a sovereign, or not conscious of being without one, and they will immediately encase her. Reverse the process, and you have the same result. Now, suppose bees, without any intent of plundering, enter a hive, and be the occasion of imprisonment and death to the queen, what will follow? These wanderers on returning home will communicate with their fellows, and knowing that a queenless hive offers but feeble resistance, will go back with others of their family and endeavour to carry off the stores of the victim of misfortune. Indeed, a hive in which a regicide has taken place may be known to be in this condition by the robbers that are continually hovering about it.

Various causes lead stranger bees into other hives; these have been referred to in the Journal, such as shifting hives, removing, or siting them too near each other. Last spring I found a very strong hive queenless from the simple circumstance, I believe, of having in the autumn previous inadvertently, and without any precautions, removed a small hive adjoining it to the distance of a hundred yards. Some of the removed bees returned, and entered what had formerly been their nearest neighbour, and, although I did not witness their proceedings, I have no doubt they occasioned a regicide.

Bees must recognise their queens by means of the odour or aroma from her person. Hence the benefit of peppermint water in forming junctions. If the queen of A were held for some time in a warm perspiring hand, and if the queen of B were held immediately afterwards in the same hand, the bees of A would have some difficulty in discovering the queen of B to be a stranger, owing to the aroma of A having been communicated to some extent to B.

According to Mr. Woodbury's experience, attacks are often made upon young queens immediately after their return from



a wedding flight. Now, the sight of a queen in any circumstances, and particularly when returning from her aerial excursion, may be as attractive to stranger bees as to her own subjects. In approaching the hive after a wedding flight, I have seen her darted upon by bees, and even struck to the ground. These might be strangers, they might follow her into her dwelling unopposed, and be the cause and occasion of the regal results which we deplore. In a unicomb containing only black bees and a queen reared about the middle of August last, I was surprised to find several Ligurian bees about the time the young queen was taking her wedding flights. The black bees passed and repassed the Ligurians without taking any notice of them whatever. It would have been interesting to have seen them come in contact with the queen; but they never moved far from the extremity of the comb.

Will Mr. Woodbury kindly state whether he has ever observed the interchange of combs productive of effects? I have an impression that the sense of smell in bees is very acute, and I have often wondered whether bees would be differently affected towards their queen were she immediately to insert her body in the cells of a comb just removed from another hive.

In giving expression to my views and making the statements I have done, I shall have gained my end if it stimulate to farther inquiry, and lead to the development of truth.—R. S.

### NUTT'S HIVES.

In answer to Mr. F. H. West as to whether Nutt's hives are not difficult to manage, I can assure him that they are the most simple which I have had to do with; for in the spring, when the slides are once drawn, I let these remain so till the side boxes are filled, when they are again closed for the purpose of manipulation. This operation takes me about twenty minutes by administering a few whiffs of smoke under the ventilators in the floor-board, which induces the bees to make their exit, and seek admission at the entrance of the parent hive.

With respect to ventilation retarding the secretion of wax, it is very possible it may do so, but I never commence ventilating till the thermometer stands from 90° to 96° in the middle box; then I open the ventilators, admission having been given to the side boxes some ten or twelve days previously, so that the boxes are nearly full of comb by that time, and would soon be taken possession of by the queen for depositing eggs in did I not make it too cool for that purpose, and yet refreshing for the honey collectors.

In reference to overcrowding in a non-swarmer colony, such a thing is not known in my boxes, there being at all times plenty of room during the gathering and breeding seasons. I cannot say that I have kept any notes showing the rate of progress in the boxes before and after ventilation, beyond the fact that the bees previous to being admitted to the boxes lose much valuable time, hanging about the hives as if waiting for more room, but as soon as let into the boxes they set vigorously to work building combs. I have not found that the queens of non-swarmer hives perversely die off at a wrong season, or when the bees are unable to raise themselves another. The weight of one set of my collateral boxes in 1864 was 45½ lbs. of honey, not including the middle box; the weight of a second set was 39 lbs. of honey. In 1865 No. 1 produced 36 lbs., and No. 2, 40 lbs. of honey.

In conclusion I may remark that I do not find the moth get into boxes so much as I have done in straw skeps.—T. S.

### MY LITTLE APIARY.

As a sketch of operations is always interesting, perhaps I may be allowed to say in few words what have been my doings this season, and their results.

I commenced the year with three stocks, all in straw hives. Nos. 1 and 3 were moderately strong, No. 2 exceedingly so—crowded with bees and well provisioned. On the 13th of May I drove No. 3, which was the smallest hive, out of the combs, and transferred all safely to a bar and frame hive. This stock turned out very well indeed, after being strengthened from No. 2. It did not swarm, and filled a large wooden super with beautiful honey, containing, however, a portion of brood, the queen having made her way up through the adapter.

A week later I drove No. 2, but with some difficulty, from its

being eked. This hive also did not swarm, and worked wonderfully during the month of June. I took from it at different times three brood combs, and three outside combs filled with honey, besides which it filled a nine-frame super with most regular combs all filled and sealed.

No. 1 was let alone, except the fitting of a small board upon it for a super. This hive, after three parts filling a glass, threw off a swarm, and did nothing further.

No. 4 was a large purchased swarm, which, after filling a hive with comb, suddenly swarmed out upon the stand. Thinking this was from the intense heat, and several other stocks in the neighbourhood clustering out at the same time, I did not at first take any notice of it, and it was not until after a careful examination on the second evening that the real nature of the mischief was apparent. Disliking cross sticks, and intending the following season to cut out the combs, I had neglected what in so hot a summer would seem to be a necessary precaution. The combs had melted and fallen down, quite filling up the hive. They were one mass of brood, having broken off irregularly 3 or 4 inches from the top; some honey was also lost and many bees. If I had had a spare frame hive the combs might still have been turned to good account, but unfortunately this was not the case, and they wasted, which was certainly bad management. A part at least might have been fixed in glasses and placed over two hives to hatch out. The bees returned to their desolate habitation and for several days seemed to be disconsolate; but they afterwards set to work to repair damages, and having been liberally fed seem likely to get through the winter.

No. 5, a purchased swarm, has filled a large hive, and given four glasses of honey.

No. 6 was the swarm from No. 1, and was sent to the heather at the end of July. It was well stored when sent, and being very populous, would, doubtless, have gathered a large surplus had the weather been at all favourable. The hive was filled throughout, and work just commenced in the super. It is by far the heaviest hive in the apiary, and might very well have spared the two outer combs.

No. 7 was a second swarm, purchased for a trifle, and sent to the heather; combs worked about three parts down, and strong in population, the bees of a driven stock having been added to it. Indeed, most of the hives have been strengthened in this way.

Tabulated, the result is as follows:—

No. 1, a straw hive, has given 12	lbs. and a swarm
2, bar and frame	49 lbs. and three brood combs.
3, bar and frame	35 lbs. and two brood combs.
4, straw hive,	4 lbs. and then broke down.
5, straw hive,	15½ lbs.
5, bar and frame,	nothing.
7, straw,	nothing.
Total,	109½ lbs.

Thus of the three old stocks the two transferred to frame hives gave most satisfactory results, and had there been anything like a favourable season at the heather, I have no doubt that No. 6 would have done quite as well as either of them, showing, I think, the superiority of these hives when fairly tried.—F. H. West, near Leeds.

### OUR LETTER BOX.

WINTER SUPPLY OF EGGS (J. S.).—Winter laying depends on age, not on breed. Laying is a natural process, and intended to produce chickens. In a state of nature all hens would produce their chickens about the same time that Grouse, Pheasants, and Partridges do, when days are getting longer, nights shorter, and when the earth teems with natural food—i. e., in the end of April or beginning of May. By breeding fowls out of course, we get them to lay earlier, but the chickens, if reared, must be reared artificially. Fowls hatched in April will lay in the winter. Cochins and Brahmas are the best, especially the latter. They can be had of Bailey, in Mount Street. Feed them on ground oats, slaked with milk, and with scraps of every kind from the table. To get thirty-six eggs per week at this time of year, you must keep at least twenty-four pullets, not hens.

ARTIFICIAL HATCHING (Nemo).—We are informed that the new incubator will be fully announced before the end of the month. The necessary experiments are being made, that failure with common attention shall be impossible. It is in the hands of a company of the highest respectability, and it is said will prove a boon for all poultry breeders.

BIRMINGHAM POULTRY SHOW.—First prize for Dorking Pullets was awarded to Mr. C. Cork, Shoreham, Sussex.

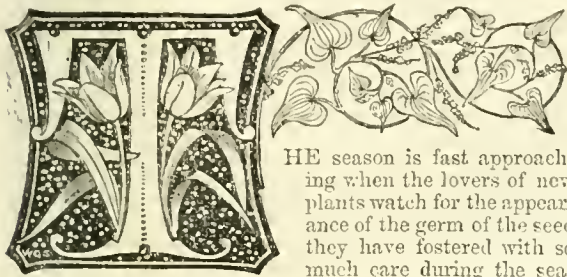
WORK ON BEES (S. D. S.).—"Bee-keeping for the Many," was written by the late Mr. Payne, a very good authority. It can be had free by post from our office for five postage stamps.

## WEEKLY CALENDAR.

Day of Month.	Day of Week.	DECEMBER 19—25, 1865.	Average Temperature near London.			Rain in last 48 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	s.
19	Tu	Brent Wild Goose comes.	44.6	33.3	39.0	16	5	48	50	43	34	8	37	5	1	2	32
20	W	EMPER WEEK.	44.1	33.6	38.9	13	6	8	50	3	34	9	40	6	2	2	2
21	Th	St. THOMAS. Shortest Day.	43.8	33.8	38.5	15	6	8	51	3	35	9	48	7	3	1	32
22	F	Sun's declination 23° 27' S.	44.8	32.6	38.7	19	7	8	51	9	21	10	2	9	4	1	2
23	S	Forza flowers.	44.8	32.0	38.2	20	7	8	52	3	50	10	14	10	5	0	32
24	SUN	4 SUNDAY IN ADVENT.	44.0	31.6	37.8	16	8	8	52	3	17	11	28	11	6	0	2
25	M	CHRISTMAS DAY.	44.6	32.4	38.5	9	8	8	53	3	45	11	morn.	7	bef.	28	
																	359

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 44.3°; and its night temperature 32.7°. The greatest heat was 58°, on the 25th, 1827; and the lowest cold, 4°, on the 24th, 1860. The greatest fall of rain was 1.13 inch.

## SOWING AND AFTER-MANAGEMENT OF PELARGONIUM, VERBENA, AND OTHER CHOICE SEEDS.



THE season is fast approaching when the lovers of new plants watch for the appearance of the germ of the seed they have fostered with so much care during the season of growth.

Only those who, like myself, are enthusiasts can know how much pleasure it gives—with what joy it fills us—to see our future pets just peeping through the soil, and how eagerly we watch them almost every hour to note what progress they have made since we last looked upon them. A short description of the way in which I treat the seeds of the above plants may, therefore, be acceptable to many readers of THE JOURNAL OF HORTICULTURE—may, I am sure that it will; for there are many amateurs who make their garden their only recreation, and who, having nothing else to engross their minds with, are constantly on the watch for the appearance of their pets. They know that after a certain number of days they may hope for the appearance of their seedlings, and as the time for this draws nearer and nearer the visits become more frequent, till at last some little hillocks are seen raised up above the surface of the soil; then come the little yellow leaves, and soon afterwards the young plants are fairly above the soil. The anxious watcher tries to force them on with all speed, so that he may hasten the time when he fondly hopes to realise the particular object he has in view. Often, however, it happens that the bright hopes he has formed respecting the future of his pets are dashed to the ground, and the airy castles are rent asunder from some unknown cause.

There are many evils which beset the path of the amateur, which can only be overcome by a long course of experiments, constant practice, and ceaseless watchfulness. Let us, then, consider what those evils are.

1st. The clumsy way in which the soil has been prepared.  
2nd. There may not have been sufficient drainage put at the bottom of the seed-pans; or if there was enough put in, it may have been thrown in carelessly—that is, some large pieces may have been thrown indiscriminately into the pan, and the soil placed on these before anything had been put on the large crocks to prevent the soil trickling down amongst them.

3rd. After sowing, the pot may have been so thoroughly saturated with water that the soil could not again become suitable for the vegetation of the seeds; or if they have retained sufficient strength to push through the soil, the latter may have become so sodden and unpalatable to the young and tender roots that these perish, the leaves droop, and the bright hope flies.

4th. The seed may have been placed at a great depth below the surface of the soil, or it may have been sown too shallow. Either extreme will often prove fatal to the vegetation of many seeds.

5th. The situation in which the seed-pans were placed may not have been suitable. They may have been too far away from the glass, or the temperature may have been too high or too low. It is better to err on the side of the latter, for seeds will sometimes remain dormant in a temperature that is not sufficiently warm to cause them to vegetate, and no harm will result providing the soil is not in a wet state. On the other hand, if they are placed in a temperature too warm for them they are forced into a premature growth, and become drawn up so weakly that the first slight wind that blows upon them, or if the atmosphere is charged with too much moisture, away they go.

6th. All the foregoing evils may have been avoided; proper care may have been taken in preparing the soil, and the pots and pans; the latter may have been placed, after the seeds were sown, in a proper temperature; everything may have been done to ensure success; the seedlings may have come up well and be looking fresh and vigorous, and the first part of the battle may have been fought, and yet want of success may be the result. This may arise from want of time, or an idea that the seedlings had better stand in the seed-pans until they have made a second pair of leaves and are large enough to handle. This is often the rock on which the raiser of seedlings strikes; it is often at this stage that his hopes are shattered.

I have in some measure digressed from my subject, and have taken up much space in explaining the causes and probabilities of failures before entering more fully on an explanation of the system which I adopt, thinking that my mode of treatment may thus be made more clear, and be the more easily understood by that class of the readers of the Journal for whom these remarks are more especially intended.

PELARGONIUMS.—For these I use a mixture of good loam, peat, leaf mould, and silver sand in equal portions, taking care to use soil that is in a nice sweet state; by this I mean neither too wet nor too dry. The soil is well incorporated together, and then rubbed through a riddle with about a half-inch mesh. After the whole has been rubbed through this riddle, another with a still smaller mesh is used; but the soil is not rubbed through this as before, but only sifted. The siftings are carefully put by to be used on the top of the drainage; this prevents the soil from passing down amongst the drainage.

After the soil has been prepared, the next matter to be attended to is the cutting or seed-pans; these must be thoroughly clean and dry, and should be about 6 or 8 inches in depth. About 3 inches of large crocks should be placed carefully in the bottom of the pans, and in doing this care must be taken to put them in so that there may be a vacant space between every piece of crock: at the same time they must be so placed that, on tapping the pan on the bench, after it has been filled with soil, they will not shake out of their proper place; for when this is the case it will often upset the whole arrangement of the drainage, causing



serious mischief afterwards, as when the pans are watered the water is sure to find the open or damaged place in the drainage, instead of soaking in regularly all over the soil. Hence it often happens that one half of the pan is covered with seedlings that have come up nicely, whilst the other is bare. This is to be accounted for by the fact that the water has found out the weak place in the drainage and passes quickly away through it, leaving the soil in the other part of the pot or pan quite dry, and the seeds, in consequence, remain dormant. It should, then, always be borne in mind in crocking either pans for seeds or pots for plants, that the drainage must be put in so that the water shall be carried off regularly all over the bottom. Want of proper attention to this particular is often the key to failure in cultivating many kinds of plants, for if the drainage is not properly seen to, the soil, from being constantly watered, soon becomes soddened and sour; a sickly appearance of the foliage and decay of the roots follow; and eventually the plant dies, or dwindles to such a state of ill health, that the greatest amount of attention and skill cannot again reinstate it.

As soon the larger pieces of broken pots have been properly placed in the bottom of the pans, put in another inch of finely broken crocks, shake the pan so that every little piece may be firmly settled into its proper place, then use sufficient of the fine riddlings mentioned above to cover this layer of crocks; fill up the pan with the prepared soil, and with a straight-edge scrape the soil off level with the edge. The soil must not be pressed in any way into the pan, but be put in as lightly as possible; if this has been nicely done, by tapping the pan gently on the bench a few times, the soil will sink down regularly to about  $1\frac{1}{2}$  inch below the rim of the pan. On this surface the seeds should be sown.

The plan generally adopted is to prick the *Pelargonium* seeds into the soil with a small dibber after the pan has been filled up and levelled. This I have found to be a bad system, for this reason, the seeds cannot always be placed upon the bottom of the hole made by the dibber. The seed is also put in the wrong way upwards. I have found by experience, that as soon as the seed begins to vegetate the roots more rapidly strike into the soil, and the bulk of the seed, or leaves, more readily ascends through the soil to the surface when the seeds are sown instead of dibbled in.

Over the seeds I generally place a mixture of finely-sifted leaf soil and sand in equal portions, just enough to cover the seeds; this being rather more porous and more tempting to the roots than the rest of the soil, will cause the roots to work more freely, prevent their going down to the drainage, and will very much increase the number of small rootlets. The pan is then filled up with soil, which is scraped off as before, a few more taps on the bench are given, and a very slight pressing with the bottom of a small pot finishes the operation. If the soil is in the state before mentioned, neither too wet nor too dry, no water should be used for three or four days, the pans should then have a very light sprinkling, just sufficient to damp the surface to the depth of half an inch or so. The pans should be placed in an average temperature of  $50^{\circ}$ , and the atmosphere kept rather dry.

About the eighth day after the seed has been sown the pans should be again slightly sprinkled with tepid water, this time using rather more than for the first watering. On the twelfth or fifteenth day after sowing, some of the seeds will begin to vegetate, and will very quickly push their seed-leaves through the soil; water should then be withheld, and the atmosphere kept as dry as possible, the pans should also be placed as near the glass as possible. Lose no time in preparing small thumb pots, in which to prick out the young seedlings. Just the same care should be taken in crocking these, as for the pans; they should also be filled in the same way, and with the same sort of compost, and if anything a little more sandy. The soil must be put into the pots very loosely, and after taking the young plants out of the pots with great care, and with as little injury to their roots as possible, just make a hole in the centre of the pot with the forefinger, sufficiently large to admit the roots without cramping them. Hold the plant between the thumb and one finger of the left hand, and after inserting it sprinkle just enough soil to fill up the space about the stem of the plant, taking care not to plant it deeper than it was before it was moved from the seed-pan; then give the pot a few gentle taps on the bench to cause the soil to sink half an inch or so below the rim of the pot.

After they are pricked off they must on no account be watered for four or five days, by which time they will have sent some of their roots to the sides of the pot, when they may have a

light watering, but not unless it is a dry day, with plenty of air stirring; and even then they should be watered as early as possible in the morning, so that the air of the house may be dry before night comes; if this is not properly attended to they will fog off by wholesale.—J. WILLS.

(To be continued.)

## A PLEA FOR TREES, SHRUBS, AND SOME OTHER PLANTS IN FLOWER GARDENS.

(Continued from page 418.)

BEDS of low evergreen flowering shrubs, and detached specimens, may be introduced into geometrical gardens with good effect, and if flowering in spring or early in summer they would be all the more desirable on that account.

ANDROMEDA FLORIBUNDA is, perhaps, the handsomest of low white-flowering shrubs. It has deep green leaves, is of close and compact growth, and grows naturally in the form of a half-circle. The flowers are bell-shaped, drooping, fragrant, and produced profusely in March and April. Specimens from 2 feet to a yard in height form excellent rests for the eye, and are best distributed singly in beds from 3 to 4 feet wide, for the plants have too much individuality about them to group well. They need no cutting beyond removing the flower-stalks, and any irregular growth immediately after blooming. The plant requires peat soil.

LAURUSTINUS (*Viburnum tinus*).—Of this there are several varieties, but none, in my opinion, surpasses the old one. Specimens from a yard to 6 feet high, and as much through, are no mean objects, whether trained as cones of half spheres. They are easily kept in order by cutting in the shoots after blooming, or in May. They are only suitable for warm situations.

KALMIA LATIFOLIA has deep green leaves, and forms excellent groups. The variety *myrtifolia*, though less in size, is even finer in foliage than the species; the leaves are smaller, and the flowers are even larger, and of a delicate pink or rose. *Kalmia latifolia* major splendens has deep rosy flowers, approaching to scarlet. The flowers of all are delightfully fragrant. Peat soil.

RHODODENDRON.—What could we do without this, the prince of the out-door flowering shrubs? *R. hirsutum* has pink flowers, lightish green foliage, and forms a fine group. The variegated kind is pretty, and will, I think, prove useful. Of the other small kinds *R. azaleoides*, pink, is quite unique, and its fragrant variety, *R. azaleoides odoratum*, scarcely less so. *R. dauricum atrovirens* has purplish flowers. *R. ferrugineum*, with russet leaves and rosy scarlet flowers, and its white variety, are pretty, and are suitable for small groups or edgings to the larger kinds. *R. Wilsoni*, pale rose; *R. ovatum*, dark rose; *R. myrtifolium*, a fine rose, and its variety *hybridum*, of a more delicate rose, make fine low groups or edgings. *R. Govenianum*, light purple; *R. ciliatum*, white, shaded rose, and sweet; *R. daphnoides*, waxy rose; *R. fragrans*, pale rose; and *R. gemmiferum*, crimson, with white centre, are indisputably the finest of the dwarf Rhododendrons. To these may be added Cunningham's Dwarf White, or *R. canescens album*; and the hybrid Marian, which, from what I know of its dwarf compact habit and abundant blooming properties, promises to be useful as intermediate between the dwarf and tall varieties. Its flowers are pink with dark spots. The varieties of *R. Nobleanum*, of scarlet, rose, and lighter shades, are dwarf and free blooming. *R. Nobleanum superbum* is a fine dwarf kind. The varieties of *R. Nobleanum* bloom early, and are sometimes injured by spring frosts. They have been fine this season, whilst the hybrids have not done so well. The variegated form of *R. ponticum*—viz., *acubæfolia*, with the leaves blotched yellow like the Aucuba, and lilac flowers, is very pretty, but will, I fear, grow too tall; small plants are handsome, how it will turn out is another question.

Of the Hybrid Scarlet, and other Rhododendrons, I have found the following do well until they became too high, then it was necessary to remove them, and replace with smaller plants, for they look best when about 2 feet in height:—Comet, scarlet; Madame Titiens, vivid rose; John Waterer, deep glowing crimson; *Blaudyanum superbum*, light crimson, dwarf habit; *Album virginalis*, white; *Coriaceum*, white, dwarf habit; Brilliant, crimson scarlet, dwarf habit; Jenny Lind, rose; Ketelerii, rose; Lord John Russell, rose, spotted; Gem, pale rose, deeper towards the centre; Lefevreanum, purplish crimson; Brayanum, rosy scarlet, extra fine foliage;



Paxtoni, rose, compact habit; and Towardii, rosy lilac. These are what have been used, and answered well, but there are others equally good, and there are many much superior to them, but they evidently have not the same claims for grouping as the above. It is best to have them in groups of one colour and kind, for the foliage differs in character and hue, as well as the flowers, and, if you plant a bed of crimson, the shades of that colour in the several varieties, though individually good, form a mixture far from pleasing as a mass.

The above are all the flowering evergreen shrubs that I have used, and known to be employed in geometrical gardens, except hardy Heaths, but they should be in groups of one species, for I find mixtures are far from satisfactory, even if the plants do flower at one time, for the differences in their foliage and habit, and in the colour, nay, shape of the flowers, have a far from pleasing effect.

Evergreen shrubs not cultivated for their flowers are of two kinds, those that are cut into form, and those that receive no trimming beyond regulating irregular growths.

**LAURELS.**—Of the trimmed shrubs, common Laurel takes precedence, and is usually employed for covering banks, and as screens to the outer boundary of the garden itself. When employed to form a bank of green foliage Laurels are planted at about a yard apart, and allowed to grow a year. They are then pegged down, letting the shoots into the ground, and making fast with pegs. This is done in the spring of the second year. They usually shoot sufficiently to cover the surface by September; if not, the shoots are again pegged. The shoots root where let into the soil, rendering further pegging unnecessary. In subsequent years they are gone over in June, and the shoots cut-in, and again after the growth is made, regulating these so as to form an even surface. Banks of Laurel are fine objects, and that very often where the bank would be unsightly if not so covered.

Screens of Laurel are even finer than banks, and are formed like an ordinary hedge by planting closely for early effect, and in two or more lines, according to the width required. Sometimes they are planted so as to form terraces of different heights and widths, sloping or perpendicular. It is a work of time to obtain a screen of Laurel; one may be made to look well in about three years by laying the foundation of the form desired through stopping the irregular growths, and commencing low enough. Inattention to this very often results in a failure at last, for if allowed to grow up in order to produce a speedy effect, the shoots come strong and thin, but by stopping these are not less strong, and more numerous. It is, therefore, advisable to lay a good foundation, and increase the height annually, so as to make the plants dense and even as we go on. Such a screen will be pleasing even when small, and it will increase in beauty every year. All the Laurels require cutting back the irregular shoots once or twice during the summer, usually twice, and the earlier after the growth is made the better. When too large they should be cut-in or reduced before the growth takes place, and they will shoot from the old wood, and soon be as green as ever.

Sometimes a number of plants are planted together with a view to form squares and globes, and are treated like screens, which last are occasionally domed at regular distances, and sometimes have embrasure-like openings cut through the living green wall. Employed in any of these ways, Laurels are always ornamental, and only give place to Yews.

Yews are the best shrubs for screens, but take a very long time to form these, often, however, longer than otherwise would be the case, from being planted too far apart. Three feet is not too far, but they are often planted 6 feet apart, and the branches are then a long time before they meet; but in the other case they meet almost at once, and by trimming the sides only they grow up much more rapidly. Trees 3 feet high, planted 3 feet apart, meet in a short time. Yews bear cutting better than anything I know, and may be made to assume any figure. The finest tree that I remember stands in the garden of a farmer at a village seven miles from York. It is cut round to some distance from the ground in the form of an upright pillar; above this two branches go to opposite points of the compass, east and west, cut flat, and narrowing to a point; again above these other two arms branch out, one to the north, and the other to the south; the tree then tapers upwards for some feet and expands into a globe, surmounted by a cock, perfect even to spurs. In fact, there is not a shape that may not be imitated in Yew; but I am no advocate for cutting the trees into the figures of birds and animals. They look much better in some simple form. Yews are best cut in spring

before the growth is made. The foliage then comes very thick, and has a feathery appearance. When cut after the growth is made the trees are rendered too stiff. Any screen that has become too wide or large may be cut-in very closely to the main branches, from which it will shoot quite as freely as from the twiggy branches. This is best done in spring before growth takes place.

**TREE BOX,** planted a yard apart, makes an excellent low screen, and is of the most easy management; all it requires is cutting early in June to the desired form, and going over it again in September, removing the stray growths only. The use of Box for tracery-work is well known, and globes and cones of the green and variegated kinds are also well known, and justly appreciated. They form excellent centres for beds of bright colours.

**HOLLIES** also endure any amount of cutting, and as half circles and cones are fine at any season, more particularly in winter. They also make good screens. They are best cut in before growth is made, or in May; after this a slight regulation of the shoots is all that is needed, or cutting back the shoots that are straggling in autumn. A judicious distribution of the different varieties of Hollies regularly cut into form contributes vastly to the beauty of a symmetrical flower garden in winter, and Hollies are likewise useful in summer as a relief to the brilliancy of colour, and for breaking monotony.

**ARBOR VITÆ.**—The American forms the quickest-growing of screens, bears cutting remarkably well, and can be kept narrow; which is more than can be said of other screens. It does best in light soils, and needs trimming to the desired form in April, and again in August. The plants should be planted closely. I have seen a screen made in a couple of days by planting, in the first week in September, trimmed trees 6 feet high at 18 inches apart. The Chinese Arbor Vitæ makes a better hedge or screen than the American.

Shrubs of close, compact habit are very eligible for centres to groups of flowering plants, and of these few can compare with the dense, deep green *Taxus adpressa*. *T. ericoides* and *T. nana* (Foxii) are also desirable for the same purpose. *Cryptomeria japonica nana*, with dense light-green foliage, furnishes the centre of a bed well; some of the *Junipers* are also useful for beds, as *Juniperus recurva densa*, *J. Sabina*, and its varieties *tamariscifolia* and *variegata*; also *Picea Fraseri hudsonica*. Then we have the pigmy Spruce, *Abies Clambrasiliana*, *A. excelsa pygmaea*, and the very dwarf *Picea pectinata pygmaea*. These for the most part are pyramidal in growth, some with narrow and others with broad bases; but we must have globular forms to relieve the monotony. We will, therefore, take the Golden Arbor Vitæ that will show itself in spring an exact golden figure of the earth; but the plants shall not be spheres but cones until seven years have passed over them. We may also have monotony of foliage, and will therefore relieve it with plants of bolder foliage, of which the old *Aucuba japonica maculata* is very effective, and not less so will probably be the newly introduced varieties. I must not omit the Irish Yew, than which no plant is more employed in geometrical gardens; its close erect habit and dark foliage peculiarly fitting it for lines and detached specimens.

In addition to the shrubs already named, there remain some that are peculiarly well suited for forming standards, and which, when so grown, give a completeness to a garden not otherwise to be secured. They at once prevent monotony, and yet are in thorough keeping with the other parts of the garden. Probably nothing is so fine as standard *Rhododendrons*; half-standards are equally effective, and even more so in certain positions, where taller plants would not conform in height with their surroundings. These standards, from 3 feet to 6 feet high, and half-standards, from 2 feet to 3 feet high, take off the flatness by standing boldly out to the view, and are fine at all seasons. Next in order comes *Kalmia latifolia* on clear straight stems 3 or 4 feet in height, and with heads as much in diameter. Such are strikingly beautiful, and amongst the most elegant objects grown. After it ranks the Portugal Laurel. It makes one of the very finest of heads, on stems from 3 to 6 feet in height, and has the property of bearing cutting well. This should be done before growth commences, for I find the shoots are liable to suffer from frost when the plants are cut late, from the shoots not being matured. A slight trimming in the way of removing irregular growths is all that is needed to keep them in order after the growth has been made. When there is room the trimming may be limited to the removal of irregular growths, they then form magnificent objects; a walk with standard Portugal Laurels on each side is truly grand. They



are equally effective in tubs, whether as pyramids, bushes, or standards, and are far more suitable than Orange trees for terraces.

Standard Yews are quite unique; I do not know of anything half so tractable as these. They look equally well with square, round, or pyramidal heads. Standard green and variegated Hollies, on clean straight stems, cannot but be admired when once seen, and they may have pyramidal or globular heads according to taste. They bear cutting quite as well as Box, and may be kept so close in growth as to resist small birds. Perhaps there is no tree so much neglected as the Holly, nor one that is capable of being cut into such beautiful forms. I am no great advocate for cutting trees much, but I am compelled to own that untrained Hollies are the reverse of ornamental. Those in possession of thin ill-proportioned trees will be well rewarded by cutting them in in May to the form desired. The Weeping Holly (*Ilex pendula*), on a stem from 6 to 9 feet in height, and its silver-variegated form, which is also drooping, are handsome. Standard Box is the very reverse of handsome, according to my ideas, though I can scarcely tell why it should be so; and this closes my list of standards, for I omit those that have failed to impress me with their claims to honourable mention. I have purposely avoided deciduous shrubs; but I may remark that few plants are finer as standards than hardy Azaleas, Lilacs, and Ribes.

In geometrical gardens it is imperative to have the trees at least in pairs, there being no individuality except in the centre, which, of course, should be varied and distinct in itself. The taller shrubs should not be placed there, but near the margin, yet not so as to prevent the whole of the figure being seen at one time from a given point of view, yet if this be done as a rule the aspect presented will be equally monotonous as when they are all graduated in height like plants rising in borders from front to back. It is to do away with this monotony that shrubs are introduced, at the same time they must not interfere with the symmetry of corresponding parts; but when we plant shrubs we must distribute them throughout on the principle of general harmony. Symmetry requires that objects on one side be repeated on the other, the parts corresponding; and the repetition of various kinds of plants contributes vastly towards increasing the apparent extent. The masses of shrubs and flowers, and the isolated shrubs, though varied as to height, character of foliage, and flower, must be allied together, so that neighbouring masses may harmonise as dependant parts of the same whole. Thus a geometrical garden should be a whole in respect to outline, a whole in respect to the shrubs massed, or individually repeated, and a whole whenever viewed—in winter with the shrubs, and the regularity of their distribution and symmetrical forms, and in summer with the flowers. Thus if we plant a tree in one corner we must repeat it in all, and if we have a mass of flowering shrubs we must have another to correspond with it.

I do not feel at liberty to introduce merely graceful plants into geometrical gardens, but I may state that I have done so with, I think, good effect. They should be employed, however, somewhat sparingly, for they encroach on the symmetry of the whole. Beds of *Canna indica* are fine, but unless sheltered they are liable to be tossed about by the wind, and are then anything but desirable. *Wigandia caracasana*, with its immense foliage, stands out in noble relief to gorgeous masses of bloom. *Arundo donax variegata* is one of the very finest plants for the centre of any garden, and for detached specimens; *Bambusa metake* also contributes to give elegance. *Arundo conspicua* will, I am convinced, be more extensively grown than the Pampas Grass; *Gunnera scabra* is also effective. I must conclude with *Aralia Sieboldi*, a low shrub, clothed to the ground with Fig-like leaves of a glossy green; it is nearly, if not quite, hardy. The introduction of plants with ornamental foliage into geometrical gardens requires to be carried out cautiously. —G. ABBEY.

#### PLANTS FOR DINNER-TABLE DECORATION.

SEEING in No. 245 an article on "Plants for Dinner-table Decoration" by Mr. Robson, to whom I, in common with your readers, am much indebted for his excellent papers, I have ventured, as he asks for hints, to draw his attention to a plant, which, although at present almost unknown, is, in my opinion, one of the best flowers for the purpose; I allude to *Lewisia rediviva*, or "Spatlum," as it is commonly called by the North American Indians and trappers, with whom it forms an important article of food. The plant is a low succulent, of close

habit, with leaves about 2 inches long, which have a peculiarly beautiful appearance by candlelight, and flowers of a lovely rose colour, about 3 inches in diameter, many being open on the plant at the same time. It derives its name from the marvellous tenacity of life which it displays. To kill it is almost impossible, and I believe the dried specimens in the herbarium at Kew are, or were until very lately, constantly throwing up new leaves, although many years old. Even if the roots are soaked in boiling water or spirits of wine they are not materially injured.

This flower I only saw twice used for dinner-table ornamentation, and the effect I shall not easily forget—indeed, I never saw before or since such a sight. It possesses the great merit of looking exceedingly well by candlelight, and the blossoms are not injured by being kept in a close, hot dining-room. It may also be had in flower at any season. The root, which is the part eaten, and which I have myself tasted, has a very agreeable flavour, and as an esculent alone this plant deserves extensive cultivation.

May I also call Mr. Robson's attention to the Egg-plant for decorative purposes? I have used a small variety at my own table for ornament, and its appearance was always remarked upon. I usually grew two plants, one bearing white and the other purple fruit, in one pot, and if carefully grown and pinched in when young, they have a very handsome and showy appearance.—J. H.

#### METEOROLOGY OF FRUIT-TREE HOUSES.

WHAT in the name—well, of all the trees on earth, can the even temperature of that mind-killing place Mentone have to do with orchard-house culture? As far as my observations have gone, such places as Mentone, Torquay, and Penzance, where the winters are warm, and new Potatoes ready for the market very early in spring, in short, in all climates like parts of Devonshire and Cornwall, with an even temperature and a moist climate, good fruit but rarely ripens well.

To the question of "G. H." I reply, There is no danger to trees in excess of temperature when their fruit is set if air is admitted. This excess by gleams of sunshine in spring is so transient, that the trees, less sensitive than the thermometer, do not appear affected—at least, I have never found such to be the case. What can I say more?

Without any mild discussion about "meteorologically favoured places" (I begin to feel quite practically hardened), I can in a few words tell "G. H." the advantage of a narrow span-roofed house—mind, my width is 14 feet—over a wall. Black Hamburg Grapes will *always* ripen here in a house, either lean-to or span-roofed. Against a wall, south, south-west, or south-east, they ripen about once in five years; so that "G. H.," with his wall-loving propensities would have, if he lived here, sour Grapes for four years, which would, doubtless, add to the enjoyment of the ripe ones in the fifth. I know that I ought not to treat this matter lightly, and yet one feels so strong in the power of glass over walls, that when it is questioned one cannot possibly think the questioner serious. I feel so with "G. H.," he seems to me to be pleasantly "chaffing" in all he says, and I daresay smiles and says, after writing a paragraph, "Won't this draw the old fellow out!"

With respect to the temperature of hedge-houses, I am glad to have the opportunity of explaining why in my book—I am sure that my enemy is not glad that I have written one, I am—I have given a high degree, for the temperature of such structures varies to a great extent.

The first hedge-house of the kind that I erected was put up about twelve years ago, and was span-roofed, 18 feet wide, over two Yew hedges of thirty years growth, and very dense, being 2 feet thick. These hedges form its side walls, 2½ feet in height. This house stands endwise north-west and south-east; parallel to it on its north-east side is another house, which, of course, shelters it from north-east, and east winds. Well, from taking the temperature of this hedge-house 5 feet from the ground in its centre, I found it very warm, averaging from 15° to 20° above the open air. It is still one of my warmest houses, although a hedge-house. The house I referred to in my last as being remarkable for its retarding qualities, is of a very different build. One is so used to variation here in the structure of houses that trifles are forgotten. The houses, one of which I referred to, are lean-to's, with Beech hedges 8 feet high for back walls, and four-feet hedges for front walls. The Peach trees I mentioned are planted in the borders, on a level with the



soil outside. They are dwarf bushes, annually cut in closely to produce shoots for budding, so that the fruit they produce is close to their stems, and barely a foot from the surface of the border they are planted in.

I confess I was at first at a loss to account for their being so tardy in ripening, but I believe I have hit upon the cause. When the sun shines upon the glass the upper stratum of air becomes intensely rarified, and cool air with lead-like gravity rushes in at the lower part of the house, so that the rapid indraught neutralises to a great extent the effect of the glass roof, the fruit being in a constant draught. This must be the case, for when walking in these houses, my head being near their roofs, I have always found them very warm, and as I have thought, of a ripening temperature, but I never remember having ascertained their temperature on the ground to contrast it with that near the roof. In quoting the extreme temperature of my large orchard-house at "96°," "G. H." should have in fairness given the context. This heat was at the top of the house under the apex of the roof. It was 83° at 5 feet from the ground among the trees.

The accurate registering the temperature of houses is very amusing, and on paper seems of importance; to the experienced cultivator it is really of little consequence, one seems instinctively to know what is wanted, it is only as regards the extreme of cold which may be fatal to the blossoms and young fruit that it is of real importance. As to giving a close calculation of what the day temperature of a house should be, the weather is so fickle in our spring and early summer time, that five times a-day the thermometer rises and falls to a great extent, yet not enough to give rules about.

I cannot help thinking that "G. H." must have been very unobservant of the night temperature of brick walls,\* their "tender mercies," are the extremes of heat and cold. In May, a thermometer exposed to the full sun will often mount to 100° and 120°. A "May frost" will supervene freezing the young fruit and sending the register down to 26°. From the middle of August to the middle of September a thermometer in the sun on a south wall will show a temperature of the same height, but radiation during the long nights tells forcibly, so that in the morning the "tender mercies" of the wall have not prevented the thermometer going down to 45° or 40°, and this fully agrees with the experience I have gained in orchard-house culture, and which I gave in my last, not one word of which I can retract, because it is gained from my long practice. I repeat, that extremes of temperature are favourable to the well-ripening of fruit, without them we should have our Green Gages mawkish, and our Peaches insipid.

Nature is very kind in giving Mentone an even temperature in which poor invalids may exist, and Mentone may produce fruit of decent flavour; I hope "G. H." will give us full particulars; but depend upon it these soft, mild, sea-side places are not the places to give us very full-flavoured fruit. To find a favoured spot for Peaches and Apricots, we must go to some hill in the far east, where the air is cold and dry, and the sun hot beyond our comprehension. It would be highly interesting to learn from the United States, taking New Jersey for instance, where Peaches are grown so largely, how the day and night temperature varies in the ripening season, and whether it is ever as low as our brick walls and orchard-houses. Nature as she shows herself at Mentone is not, I think, an instructor of much account, as far as regards fruit cultivation here.

The exigencies of our climate seem to me to open a wide field of experimental fruit culture, into which we have barely entered. I may, for instance, mention, that a lean-to house 14 feet wide is being built here of the lightest, cheapest, yet most durable nature. It is self-ventilating, is about 10 feet high at back, and 5 feet in front. Its rafters are  $4\frac{1}{2}$  by  $1\frac{1}{2}$  inch, bevelled. They are placed 24 inches apart, and kept in their places by a bar of T iron, screwed to each rafter by their under surfaces. The back wall is of deal boards painted white, to a portion of which diagonal cordon Peach, Neetarine, and Apricot trees are trained so as to occupy the lower part, while standard-trained trees will occupy the upper part temporarily. Nothing in fruit-tree culture can be prettier or more productive than diagonal single cordon trees under glass, which, owing to their being under continuous summer-pinching, they require. They are planted about 14 inches apart, and very rapidly make a wall or fence under glass very profitable. The portion of this house finished is 200 feet in length. It is in-

tended to carry it along in a straight line to 2000 feet, or, perhaps, 3000 feet in length, as the surface of the soil is level and adapted to the purpose. The area of the house will be devoted to the culture of trees planted in the borders, as espaliers or otherwise. Its cost is about three-fourths that of a brick wall, but I have not yet exactly estimated it. Not a brick is employed in its construction, yet it is as durable as a house built to a heavy brick wall, and so light and warm as to be a most agreeable as well as a profitable venture.

I must conclude by thanking "G. H." for his articles, they make one think and observe.—T. R.

### CYCLAMENS.

A I take a great interest in Cyclamens, and grow them largely. I have been much gratified with Mr. Atkins's promise of a paper, by a first-rate hand, more exact than Mr. Abbey's. My present communication is not, however, to criticise, but to ask those learned in Cyclamens, if the Cyclamen Peakeanum, figured in the work edited by "D., of Deal," be anything else than the Cyclamen europæum, found on the Italian slopes of the Alps, a little spoiled by being kept in a warm greenhouse? I and a friend have what seems to be the same thing, but under very different treatment. In my friend's warm greenhouse the bulbs are evergreen, and some are always in flower, or nearly so; in my own cold greenhouse they are just now about to go to rest. I gathered yesterday what seem to be the last blooms. Out of doors they have ceased to bloom for some weeks. The out-of-door plants are finer in colour, more robust, but the petals are shorter, and less divided. In-doors, according to the temperature, they become more and more like some varieties of Cyclamen persicum, but the petals are more divided, and less regular than the better varieties of persicum.

I find that all the Cyclamens will grow out of doors in the midland counties if properly treated, even *C. persicum* if covered with some leaves and branches in the winter; but all do better in a frame where they can be thoroughly drained, and well ventilated, but kept from rough winds, and too much sun.

I have some of the finest bulbs that can be grown of most sorts; but the gems, so far as the eye is concerned, are the Greek varieties; the foliage and flower leave nothing but perfume to be desired. Cyclamens are so easily grown and propagated that I hope to see them as largely cultivated as they deserve, and also improved, as every other flower has been, by careful selection.—S.

### THE ESPERIONE GRAPE DEFENDED.

I wish to rise up in defence of my Grapes. I feel wounded by "A Surgeon's Notes," at page 338. The wound is given by a masterly hand; still, can it be that three out of the four Grapes which I cultivate should be laid so low? "Not much need be said of the Black Hamburg." "The Muscat St. Laurent is a watery Grape." "I cannot say I care for the Esperione." A depreciation of the first two I could have borne, but of the Esperione never. Those which I submitted to the Editors were pronounced "very good," and I wondered whether "J. H. H." had the true Esperione?

There is a great uncertainty about this Grape. I was partly the cause of some articles in these pages, and much inquiry concerning it in 1857, and the result left no doubt in my mind that the Esperione is the Grape which was formerly cultivated on the slopes of Windsor Castle. Our late friend, Mr. Beaton, as with everything else that he took in hand, has given us a good insight into its history, &c., while treating on Vine pruning in Nos. 473, 477, and 481, and it was only the other day that I was asked my reasons for thinking that I possessed the identical sort. I do not intend to quote very extensively, but I will bring to my aid a few extracts from the above Numbers, and which seem to bear me out in my opinions; I will then trace my acquaintance with this Vine down to the present season.

In No. 473, Mr. Beaton wrote, "Mr. Grierson, of Ledbury, who retired from gardening in 1830, was the planner and planter of that new garden, and among other things he planted an Esperione Grape Vine, which he received from the late Mr. Williams, of Pismaston, near Worcester, the best authority at that time for such things, after Mr. Knight of Downton Castle. This Vine was the only authenticated one of that kind that I

\* "G. H." seems to ignore the effect of radiation from the heated surface soil of an orchard-house. This is very great, and, moreover, it is arrested by the roof.



ever knew. It was also the most productive Vine I had ever seen." In No. 477, Mr. Beaton thanks me for sending him some cuttings and specimens of the Esperione Grape, and pronounces that they "might pass anywhere as hothouse Grapes." In the article, in No. 481, there is a very interesting correspondence from Mr. Rivers, where the colour of the leaves is treated as a distinguishing mark, and both Mr. Rivers and Mr. Beaton seem wavering as to there being two kinds of Esperione, one with a leaf dying off yellow, and another with leaves dying off a variegated purple. The latter concludes with the inquiry, "Is there no old garden about Windsor where a plant exists, from the royal garden, which was, probably, levelled down when the present garden was made? Mr. Ingram must recollect the Windsor Esperiones, and what came of them at last." Now, the leaves are a most important point. I can show that against the unprotected walls of this house the Esperione foliage is dying off yellow, whilst in the case of the very Vines propagated from the out-door Esperione, and planted in a vinery without artificial heat, the foliage is for the most part dying off of a beautiful variegated purple. A Black Hamburgh under the same circumstances, and in the very same house, has its entire foliage fading yellow. I have observed the same feature ever since I have had the Vines under glass. I never could feel decided till I found that out.

It is now some thirty-three years ago, when I was not far advanced in my teens, that on making my way towards the kitchen garden at Downton Castle, I stopped upon a raised embankment, intently viewing some fish in an artificial pond, when the late T. A. Knight, Esq., President of the Horticultural Society, came upon me almost before I was aware of his presence, so absorbed was my attention in the fish. He held two fine Potatoes in his hands, and he described them to me—he would converse with anybody—and from that very day I date my peculiar interest in the Potato. I told him that I wished to see the garden, and he said, "Go and see all that you wish to see." Perhaps I was too young for the gardener to notice; but I fancy I can yet see the experiments and productions in the garden as I saw them then. What more especially struck me, was a Vine with a beautiful bloom upon its fruit, and having pretty foliage. It was in a structure, which, if I remember aright, was neither a pit nor a house, and I thought if ever I came to grow Grapes I should like that variety. Years passed on, and I never saw that garden again, but whenever I came to where Grapes were growing, I searched for the wished-for kind.

It was either in the first or second year, I think, of the Vine disease (*Oidium Tuckeri*), that I was at the gardens at Stoke Farm, near Windsor, the late Dowager Lady Sefton's, and Mr. Oldaker's houses were poisoned with it. I was accompanying him in the garden, and we came to a sort of lean-to house in the framing ground, used for forcing flowers to cut, and lo! there was my long-sought Vine, growing against the back wall, in perfect health, and loaded with ripe Grapes, covered with the well-remembered and unmistakable bloom. I explained to Mr. Oldaker how I first became acquainted with it, and requested the name. "Esperione," that is how I entered it in my pocket-book, was the answer. The stem of the Vine was large, old, and gnarled. Oldaker said it was a very old sort in the neighbourhood, and not usually met with, but he was very glad he had it, for otherwise he would not then have been able to have cut a bunch of Grapes fit to be presented at table. He sent me some Russian Violets and Vine cuttings in the autumn, and I never saw him alive again. I visited Stoke Farm again last autumn, and the first thing I did was to make a pilgrimage to the Esperione-house. I learnt that the Vine had been destroyed soon after Mr. Oldaker's death. Mr. Simpson has now turned the house into a peachery. The hole in the wall where the stem entered only remained to remind me of the existence of the Vine. The oldest workman, still in the garden, and who was there before Oldaker's time, could furnish me with no history beyond what I have written, except that the Vine was there long before his coming to work on the premises.

The last time I was at the Royal Horticultural Society's garden at Chiswick, the Vines in the conservatory were young. I hope to see them next year when the Grapes are ripening. They had the Esperione there in 1862, and I saw an unmistakable bunch of it exhibited in their collection at the first International Fruit Show, at South Kensington. It maintained the best bloom before the world, and it was a very nice bunch of Grapes. It is a wonderful and certain bearer; it sets its berries well, is as often shouldered as not, frequently

singly so, and the shoulders are longer and looser than those of the Hamburgs. The mere protection of glass adds to its quality greatly, by producing a sweet aromatic piquancy of flavour. Invalids have told me that they found it grateful when the best Black Hamburgs would cloy. Cultivated on the open walls, in nine years out of ten, I can prove that it makes good claret, and something better. It is altogether a better Grape for making red, or any other wine, than the Hamburgs, and I have bunches now in the vinery that would hang till the new year. It is my favourite Grape, and "I care" very much for the Esperione.—UPWARDS AND ONWARDS.

## GRAFTING GERANIUMS.

It is not customary to graft or bud Geraniums, nor, indeed, any softwooded plants; not that it is a difficult operation, but from the ease with which the most of them are propagated by cuttings. It has been considered by some that if certain kinds of Geraniums which do not do well as bedding plants were grafted upon kinds of harder constitution they would do much better. I have no doubt that some kinds might be increased in vigour by being grafted upon a hardier stock, where the soil is unfavourable to their growth upon their own roots. On the other hand, grafting would avail little where the climate is unsuitable, for no stock whatever can impart any portion of its own nature to resist cold, rain, or sun to the kind grafted upon it. There are some Geraniums that do not root well when planted in the open ground, scarcely growing, except during cloudy weather and when the air is moist. Such are all the golden-leaved and golden-edged Geraniums, as Gold-leaf, Cloth of Gold, and Golden Fleece of the golden-leaved kinds, and Golden Chain and Golden Harkaway of the golden-margined kinds. All these have very long roots, running very little below the surface, as do those of most of the white and yellow-edged and golden-leaved Geraniums, and on this account they are difficult to take up with balls in autumn; notwithstanding which they grow more freely after taking up than during the summer, excepting Golden Chain and Golden Harkaway, which are the very best of all the gold-margined kinds, and these do not grow much during the winter months.

Now, if there be any kinds of Geraniums that could be altered and have vigour imparted to them through the agency of a more vigorous stock, these are the kinds to operate upon. For my part I should not care to have Golden Chain any stronger than it grows with me at present; but I have a notion of grafting it on stems 1 foot and 18 inches in height, which I think would look extremely well at the angles of white lines in panel work, and be effective and novel judiciously placed where the surface is flat. What I particularly want is a good white, pink, and scarlet Geranium that will bloom continuously, and yet have the dwarf, compact habit of Golden Chain. At the same time I do not like to see Cloth of Gold go back instead of grow when planted, neither is it desirable to have all Geraniums of one uniform height, nor all of free vigorous habit. Cloth of Gold and Gold-leaf would be all the better if they would grow a little more, and there may be some who would like many of the others to grow more, though, for my part, I should be glad to learn a process to dwarf three-fourths of all bedding Geraniums, for notwithstanding the unprecedented drought and heat of the past summer, they grew by far too much. I want them to bloom like fancy Pelargoniums, to grow slowly, to be very compact, and to produce a bloom or truss from every joint.

In addition to the gold-leaved kinds, some of the tricolor-leaved sorts would probably be improved by grafting on a hardier kind of stock, which is desirable, as in their present state they are of little value for bedding-purposes, except Eastern Beauty, Topsy, and Mrs. Pollock, and even these would be none the worse of a stock that would grow in almost any description of soil.

Inasmuch as the kinds of Geraniums proposed to be grafted or huddled are not in themselves amongst the very vigorous, it would be contrary to sound principles to graft them on very robust-growing stocks, for assuredly the best results will accrue from grafting on stocks whose growth corresponds most closely to that of the kind to be grafted. Golden Fleece, for instance, should not be grafted on an erect-growing kind, as Lucien Tisserand, but on one of a corresponding habit, as Tom Thumb, which is the stock I would choose for it, Gold-leaf, and Cloth of Gold; and I would choose Little David for Golden Chain and Golden Harkaway; and Royal Dwarf as a stock of upright growth, free, and hardy constitution, suitable for varieties of

similar growth, but wanting vigour. Stella would also prove a good stock for Golden Chain when it might be desirable to make it grow more. Madame Vancher and Lady Middleton would do for the thick-stemmed kinds.

The most eligible mode of grafting is that known as whip grafting, and it may be either with or without a tongue, and when the stocks are much thicker than the scion, cleft grafting is a nice method, and so is wedge or crown grafting. At page 343 of the present Volume will be found an engraving and directions for whip grafting, so that it would be needless to repeat them. This kind of grafting, though it is the surest of all methods, has a tendency to weaken the stock too much, and for that reason whip grafting without a tongue is preferable. Stocks established in small or 60-sized pots, and having 2 or 3 inches of clear stem, are the right kind for grafting, and being brought to the potting bench, they should be turned out of the pot without disturbing the ball more than removing the loose surface soil down to the roots. The head is to be cut off immediately above the lowest bud, leaving from 1½ to 2 inches of clear stem below it, opposite which, on the other side, a thin strip of bark, 1 inch or 1½ inch in length, and a small portion of wood, should be cut off in an upward direction, about halfway through the stock at its upper part, more or less according to the thickness of the stock and that of the scion, for the stock should be so cut that when the scion is prepared the edges of both coincide or fit exactly. The scion is to be cut at its lower end to fit the cut on the stock, first cutting it transversely, as in forming a cutting, and removing the lowest leaf carefully so as not to injure the bud at its axil. Place a sharp knife against the scion on the other side to where the lowest bud is situated, and at the same distance above that bud as the cut on the stock is in length; bring the knife out just beneath that bud, and quite thin there. This cut must be smooth, and the scion must be pared so that it fit the cut on the stock to a nicety. If the scion has two, or at most three leaves above the one at its base it will be sufficient, it being immaterial whether its point remain or be pinched out, though I think if there is any difference that the grafts do best when the point is not pinched out but left, as in the case of a cutting. Join together the scion and stock and fasten them closely with a strip of bast matting soaked in water, but not very tightly, being very careful that the edges of stock and scion agree. The plants should now be potted into 32-sized pots, and so low if possible as to cover the union of stock and scion, but if not, the union should have some moss, not much, placed over it, and be bound moderately tight with matting. It is better, however, if the point of union can be buried in the soil, for this not only excludes the air but favours the emission of roots from the part of the scion immediately below the eye. If room be a consideration then instead of potting the plants into 32's use 48's, employing the moss, or, if preferred, clay may be put over the part. Remember that it will not do to take cuttings from plants in heat, for it is necessary, if that is the case, for the stocks to be in an equal state of growth, and though I here recommend the grafting to be done in March or early in April, I have done so in order that the grafted plants may be planted out at bedding-out time, otherwise the scion will take more freely in May and June. I have grafted Geraniums for the last thirteen years, but in this, as in all other modes of grafting plants, I have yet to learn the value of doing so, excepting always for those plants which do not succeed well on their own roots in consequence of the coldness, wetness, and general unsuitability of the soil.

The plants being potted and watered, plunge the pots in tan or sawdust over a hotbed at 75°, keeping close and shaded from bright sun until the scion commence to grow freely, then give air by propping up the lights, for a hotbed frame is best, and gradually harden off. In six weeks from the time of operating the union will be complete, and should the eye left at the upper part of the stock grow, remove the shoot by cutting it off closely with a knife, and unless this eye grow it is very likely the upper part of the stock will not heal but decay, and there is an end to the union taking place. It is imperative to have an eye at the upper part of the stock, for if united midway between the joints the stock very often dies to the eye next below it. Cleft and crown grafting are also nice methods.—G. ABBET.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—His Royal Highness the Prince of Wales has graciously consented to become the President of this Society in the room of the late Duke of Northumberland, and has presented the Institution

with the sum of twenty-five guineas. Sir C. Wentworth Dilke, Bart., M.P., has also consented to take the chair at the anniversary dinner, to be held in the ensuing summer.

### WINTER QUARTERS OF THE RED SPIDER.

I SHALL feel obliged if you will furnish some information as to the winter quarters of the red spider. Does it hibernate? or, if not, where are its eggs deposited during the winter? Are they placed like the eggs of the aphid at the base of the buds? if so, I cannot find them; or in the soil on decayed leaves? If either of the latter two it seems to me that orchard-house cultivators would act wisely if they scraped off the soil from the surface of their pots, and around them, as well as all the decayed leaves, and made an end of them all by roasting them in a good fire. In the *Manchester Guardian* of this morning there is a paragraph to the effect that carbolic acid, or coal tar, if applied in small doses will kill all the pests of the garden. Please to say what you know or think of the plan.—T. G.

[We believe it has neither been observed where the red spider hibernates, nor where it lays its eggs. The two plans you mention are excellent, and may be advantageously practised not only against the red spider but various other garden pests.—W.]

### ROYAL HORTICULTURAL SOCIETY'S INTERNATIONAL FRUIT SHOW.

IN resuming our account of this Exhibition, we take the opportunity of correcting a mistake at page 483, by which some remarkably fine Pears are attributed to the Rev. G. W. St. John, instead of I. Corbière, Esq., of Cerisy Belle Etoile, Normandy. Mention should also have been made of two cases of dried fruits contributed by R. Clarence, Esq., of Cape Town, and consisting of dried Apples, Pears, Quinces, Plums, Figs, Apricots, Peaches, and Currants; also, Almonds, Walnuts, Raisins, and Prunes.

A short account of the vegetable show has already been given, and it now only remains to add a few particulars respecting it. The subjects of which it was composed were arranged in the corridor on the western side of the conservatory, and, as a whole, had a much neater appearance than vegetable shows usually present. Mr. Ingram's collection consisted of nine sorts of Potatoes, very good London Flag Leeks, Strasbourg and James' Keeping Onions, Russian Shallots, Jerusalem Artichokes, Dioscorea Batatas, James' Scarlet Carrots, very fine; excellent Pursnips and Turnips, Beet, three kinds of Celery, Celeriac, very good Hamburgh Parsley, Curled Parsley, Horseradish, Scorzoneria, Salsafy, Cardoons, Spinach, Walcheren Broccoli, Coleworts, Brussels Sprouts, Savoy, and Scotch Curled Kale.

Mr. Ford, gardener to W. E. Hubbard, Esq., Horsbarn, exhibited twenty-nine dishes of Potatoes, of which Myatt's Ashleaf, and Red Ashleaf, were very good, and Ford's Prince of Prussia, a seedling, was stated to be very prolific; Endive, Broad-leaved and Curled; Red and White Celery, Beet, four kinds of Turnips, Parsnips, Jerusalem Artichokes, Early Elm Savoy, one of the most useful sorts for small gardens, Aytton Castle Leeks, Nonpareil Cabbage, Brussels Sprouts, Curled and Variegated Kales, and Herbs.

Mr. Whiting furnished an excellent collection, consisting of good samples of the following Potatoes—viz., Dalmabay, Jackson's Ashleaf Kidney, Prince of Wales, beautiful and clean tubers, Paterson's Blue Round, Sussex Kidney (?), Early Shaw, Eugénie, Daintree's Seedling, Paterson's Victoria, Fluke, Ormskirk White Rock, Sutton's Early Racehorse, Rivers' Royal Ashleaf, Early Handsworth, Myatt's Ashleaf, Red Regent, and Napoleon, an excellent kind for table, there being but little waste. Mr. Whiting's other vegetables comprised excellent Carrots, Dioscorea, Cardoons, White Spanish Onions, and Scorzoneria, Parsnips, Croucher's Beet, a local variety held in great estimation in Mr. Whiting's neighbourhood; Turnips, Brussels Sprots, Cabbage, Lettuce, and Endive.

The last general collection which we have to notice, is that of Mr. Budd, gardener to Earl Darnley, which consisted of Leeks, four sorts of Onions, Hollow-crowned Parsnips, Scorzoneria, Salsafy, Merriott's Scarlet Carrots, Beet, fine Turnips, Walcheren Broccoli, Fearnought Cabbage, Savoy, very good Black-seeded Brown Cos, and Brown Dutch Lettuce, Broad-leaved and Curled Endive, Celery, and Telegraph Cucumbers. The above were good almost without exception.

The Rev. G. W. St. John's Potatoes have been already briefly noticed. They had been grown on the system described at page 485, and consisted of Hogg's Coldstream, stated to be one of the best for forcing, and suitable where only one kind is required; Daintree's New Seedling, shown as a Kidney and a Round; Beehive, very clean, medium eyes, following the first earlies, "Huntingdonshire Kidney;" Shutford Seedling, and Mitchell's Early Albion, both excellent for forcing; Lapstone Kidney, Fortyfold; Onwards, described last week; Daintree's Seedling, British Queen, and Haigh's Kidney. In addition to the above were Hogg's Coldstream, Daintree's Seedling, British Queen, and Fluke, shown for size, and Brussels Sprots, grown be-



tween the rows of Potatoes by the aid of sewage, and in the open quarters, to show the superiority of the former in size and productiveness.

The prizes awarded were—the gold medal of the Society to Mr. Ingram, for the best collection of fruit and vegetables produced in the garden of a Sovereign; a similar medal to the Horticultural Society of Copenhagen, for the best collection of fruit grown by any botanic or horticultural society; a like award to the Fruit Growers' Association of Nova Scotia, for the best and most complete representative collection of fruit and vegetables from any of the colonies; the first Banksian gold medal to the Agricultural and Horticultural Society of Madras for the best and most complete representative collection from any of the Presidencies of India; the first gold Knightian medal to Mr. Solomon, as the exhibitor gaining the greatest number of first-class certificates; the second gold Knightian to Mr. Ford, for the greatest number of second-class certificates; the second gold Banksian to Mr. Whiting, for the greatest number of third-class certificates; and the first gold Banksian to Mr. Solomon, for the greatest number of marks.

### WHO SHOULD GATHER THE GARDEN PRODUCE?

I HOPE you will allow me space in your Journal for a few words on the above question. I happen to have the management of one of those gardens where the domestic servants cannot be prevented from going through it, as there is a direct footpath from the house to the stables; consequently the coachman or groom, or, in fact, any one going from the house to the stables has no other way than through the garden. This is not what I have to complain of, nor of such trifling matters as the kitchen maid running into the garden to pick a little Parsley for garnishing, or a sprig of Thyme, &c.; but in the summer when the fruit is ripe it is not a very pleasant sight to see the kitchen maid in the morning gathering a dish of Strawberries for breakfast, again about noon the cook after Currants or Strawberries for a tart, and at four o'clock in the afternoon the parlour maid is after a few for dessert. If you take notice you will see that they mostly eat two and put one in the dish, and another fact is they never eat the worst—no, but always the very best, and consequently the worst goes to the master's table! and another evil is, they tread on and spoil more than they take away.

Now, these things are very annoying and very degrading to any gardener, especially when he attends at the house every morning for orders, and is always on the premises during the remainder of the day, yet it was the manner in which I was treated last summer, and I have no doubt it is the case with many others.

Of course I was annoyed, but I said nothing, but thought the more, and the conclusion I came to was that perhaps it would work off best by my not saying anything, or, perhaps, some day an opportunity would offer itself for me to bring the question forward. I hope you will be kind enough to give us your opinion, or a few lines on this important subject, for I am sure there are others besides myself treated in the same way, and very often the master is entirely ignorant of such proceedings.—CONCORDIA.

[You are quite right in thinking the matter important. There can be no satisfaction when matters are managed as you represent. Now, first, we think it is a good plan, where the garden is near the house, to have some small bit of ground outside the garden walls or boundary, in which a little of all the herbs likely to be wanted are grown, and to which, not as a general practice, but in an emergency, the kitchen maid may repair for any little thing she may want, and which she may have forgotten. Such an arrangement is often very satisfactory to all parties concerned, and it saves a garden man making a journey to the house in working-hours. As a general rule, however, it is more satisfactory when all orders for the garden are given at one and a definite time. There are plenty of employers who are not over-liberal as to labour-power, and yet cause time to be uselessly wasted by not settling at a regular time what they will have for dinner, and the chief of the kitchen in consequence is often obliged to give extra trouble, and cause extra journeys, which it would better suit all parties to avoid.

Secondly, Scarcely any contrivance could be worse than having the direct thoroughfare from the house to the stables through the garden. Direct temptation should not be too glaringly put in the way of the most honest people. Efforts should be made to have another way to the stables. Do the carriages and horses also come through the garden to the house? If not, why cannot those persons who go from one place to another go the same

way as the carriages do? If there is only one road, and that through the garden, it would be well to divide the garden from it by a fence on each side of the road, even if it were a stont Privet hedge, with the requisite number of doors or gates in it.

Thirdly. As to cooks, parlour maids, &c., gathering fruit at any time and every time they think proper, that is so thoroughly out of the question, that we would advise you to take the first suitable opportunity of representing the case to your employer, and calmly but clearly showing that under such regulations it would be impossible for his table to be satisfactorily replenished. No one but yourself should gather fruit for the table, or some one with clean hands and a quick eye on whom you can rely. Such a system is just as subversive of all order and consistent regulation as if you were to go and do as you liked in the cook's larder, the butler's pantry, or the housekeeper's store-room.

Fourthly. We will go a step farther, and say, that although the proprietor and his family have a perfect right to what is their own, and may exercise that right in the case of fruit of all kinds, yet it will be prudent to exercise that right but little, and never without giving the gardener due notice. The gardener's aim is to send the best to table; but if there are several to pick and choose where they like, there will never be any best to find; besides, when so many pick at their pleasure there is a great temptation to garden men to imitate their example. When fruit is missed—"I saw Mr. C. and Miss M. there," will often come in as a nice excuse; and if even the gardener suspects the contrary, he is obliged to take the explanation, as he has no personal evidence on the subject. Where there are children, who may delight in picking for themselves, it should only be in the places that the gardener appoints, and from which he has taken the best. On the whole, then, if a gardener is to be responsible, no other servant must be allowed to interfere with the produce of the garden, and when several men or boys are employed the proprietors will act prudently in waiving their right to do so.]

### GLEANINGS FROM ROCK AND FIELD TOWARDS ROME.—No. 9.

"FLORENCE, the garden of Italy; Italy, the garden of the world." How often do we read those lines, little imagining how true they are—how in very deed, throughout every month of the year, Florence is a land of flowers! They spring up spontaneously on every side, requiring no fostering hand to bring them into beauty—by the dusty wayside, or amidst the fresh green of the springing corn—beneath the grey Olives, or crowning the high bank—turn where you may, and it seems as though Flora had that instant poured out her brightest treasures to gladden your sight.

Ten years had passed away since I last had hunted for wild flowers in the fair valley of the Arno. Ten years since, in the gardens of the Pitti palace, I had gathered brilliant Anemones and Tulips, the good-natured gardeners of the still more good-natured royal owners offering me help when the flowers were beyond my reach; but then I was accompanied by a dear friend of the Bourbon race, who now leaves Florence whenever the king enters it, and speaks of Napoleon III. as "Ce Monsieur."

Ten years ago, and I had stood in the Casene, the Hyde Park of Florence, with hands filled with Primroses and Violets, listening to an Austrian band playing the national airs of Tuscany; and the whole city seemed asleep, bound by some invisible spell, while the waters of the Arno flowed along under the goldsmiths' shops on the Ponte Vecchio with a lazy soothing sound, as if sleep and repose were all in all to Italy. And now? We will go to the gardens of the Pitti. The dark walls of the massively built palace are the same; the huge blocks of stone chamfered round the edges, the faces of the blocks hewn and chiselled into irregular surfaces, look as defiantly as of old, and the garden is the same, and yet not the same.

The Anemones are over, but there are wild flowers still—wild, yet guarded here and there and everywhere by Italian soldiers. On a grassy slope, looking down on which are beautiful white statues, I see some blossoms of Hawkweed, such as I have never before seen growing wild. I make a charge up the bank in the very eye of the sentinel. A prohibition in Italian is given. "Non parlate Italiano," I cry with as much truth as vehemence. "C'est défendu," calls out the sentinel. "Je suis étrangère," say I. Then follows a long French speech, at which I recklessly fling at the poor soldier a whole tirade of English, explaining the why I kept gathering the flowers, smiling and thanking in French between whiles, as though we were on the most amicable understanding in the



world. Then the seldier, fairly beaten, passes muttering on-wards—happily on the same beat, for a little further on I espy a bank of white Thyme, with here and there a plant of *Orehis marie* and *Ophrys aranifera*. I charge again, am again repulsed, and again victorious, bringing away not only the *Orehis* and Thyme, but other flowers, and amongst them the *Lychnis floe-euculi* (not a bit like our English Ragged Robin, in spite of the Professor), and the *Trifolium stellatum*. Then I pass on, still smiling and thanking the soldier for his extreme politeness to a stranger, till I find a quiet nook, where undisturbed I gather *Adonis autumnalis*, *Vicia sativa*, and a pure white *Orehis*, with many another tiny flower not very remarkable, perhaps, save as growing beneath that cloudless sky of such bright blue that it makes one's eye wink to look at it.

And after wandering up and down the long green alleys, peering through gratings into orangeries, and watching sedate little Italian children in their quiet walk by the side of their gesticulating parents, I sit down and gaze on the large mass of buildings that contain such a world of treasures within their walls.

I have never seen any picture gallery that could be at all compared with that of the Pitti Palace. The rooms in themselves are so charming, so like rooms in which one could sit down and make oneself at home; and amidst all the pictures there is not one that inspires you with horror—they are all beautiful, all gems. Fancy being at home with Raphael's *Madonna del Seggiola*, with the divine "Man of Sorrows" of Cigoli, with Fra Bartolomeo's *Pieta*, and with that new addition made to the galleries since the hurried flight of the good old Grand Duke, Raphael's *Madonna del Gran Duca*, one of Raphael's happiest embodiments of the Mother of the Lord. There may be no great depth of feeling, save, indeed, in the Mother's satisfied look of peaceful love and the Child's tender trustfulness, but yet it is irresistibly attractive.

One of the great charms of this gallery is the unquestioned way in which you enter and walk about, lounging from room to room and seat to seat; and it is pleasant to feel that the privilege of enjoying these glorious works of art, unquestioned, is accorded to the lowest artisan, no other ticket of admission being required than the wish that prompts you to enter. Ten years ago, sitting in the entrance hall was a Tuscan soldier warming himself over an enormous brazier of charcoal, and inviting you to do the same; but the brazier disappeared with the soldier, and the entrance hall felt a little cold.

Returning from the Pitti to the Lungarno we pass over the Ponte Vecchio, that wonderful street of jewellers' shops, built over the river which flows lazily along beneath. In the centre of the bridge there is a break in the shops, and an empty space left, where you may lounge at eventide, and watch the sun setting behind banks of cloud far away up the river. As he recedes he casts back a mantle of fire, which, lighting on floating clouds, reflects itself in the waters, while to the soft blue of the west is given a rosy flush.

My favourite walk in Florence used to be that which, passing over the Ponte Vecchio, led me up the steep ascent of the Via Crucis to St. Miniato, situated amidst groves of Cypress and Olive trees. As you rest at each station beneath its wooden cross, fresh views of extreme beauty burst upon you, till the whole of the fairest city of Italy, I had nearly said of the world, lies spread out at your feet, and you can define churches and palaces with minute exactness—the round domes of the Cathedral and St. Lorenzo, the square towers of the Palazzo Vecchio (the grand-ducal tower), and the Campanile, and the churches of St. Croce and St. Maria Novella, so celebrated each in its separate way. In St. Croce lies the dust of Michael Angelo, so great as sculptor, painter, and architect, with many another name known to fame. St. Lorenzo guards the wondrous chapel of the Medici, where Michael Angelo has wrought the "Night and Morning," which guard the solemn beauty of his matchless "Il Penseroso." The gates of the baptistery of the Cathedral have been likened to the gates of Paradise, so perfect is their workmanship; while the inlaid coloured marble façade of St. Maria Novella could hardly be excelled in beauty. To the right, the windows looking on the river, is another palace—the Uffizzi, which contains a justly celebrated gallery of art, the greatest gems being the sculptured *Venus de Medici* and Raphael's *Madonna del Cardellino*.

Ten years ago, and the fields around and below the little church of St. Miniato—called by Michael Angelo "Bella Villanelka," or pretty country lass—were full of Violets, Hyacinths, and Anemones; the gates used to stand invitingly open, and many a time have I wandered there gathering my basketful of

spring's fairest flowers, while my eye wandered far away over the glorious scenes on every side. But alas! I found all changed. The fair fields were being converted into a huge necropolis; and the church with its inlaid marble floor was full of graves, tawdry ribbon-decked *immortelles* lying untidily about, hiding even the slab on which is written, "These stones are given to Christ, who is prayed never to depart from them."

I shudder when I think of that necropolis. Half built, its hundreds of yawning graves stared horribly on every side. I tried to get away, but they fascinated me. Who would tenant them? One by one they would close, over which of the inhabitants of that fair city, who were unthinkingly awaiting their individual summons below? Like a devastating monster with open jaws ready to devour all who approach, these dreadful pits seemed to wait open-mouthed for the unthinking people. Yes, a burial-place in all its terrible nakedness, unhalloved by the sacred dust, by a cross, by aught that speaks of immortality, is a hideous sight. By the way of the Cross I had ascended to St. Miniato, and I knew that to all who followed that sacred way the grave would lose its victory, and that many a tired heart would look up to the little church upon the hill as a quiet haven where the weary would find rest.

It was pleasant to get away from this, my once favourite spot, and to stand on the Ponte Vecchio, watching a little child at play by the river's side, and listening to the hum of voices which spoke of life and life's happiness.

Less altered in its present from its past is the Cascine, where Austrian bands used to play to crowds of gay people who drove, or rode, or walked by the Arno's side. I found it much as I had left it. The silvery Birches waved in the air, the crowds were gathered, and the bands playing; nor did the music sound less sweet to me when I remembered that the soldiers who played were Italian, and that I was listening to their music in the capital of Italy.

And the flowers, let me not forget to mention them. I open my book, and the first specimen that greets my eye is the *Aristolochia*, a strange sort of Woodbine foliage, with a Pitcher-plant-looking flower. The next is a pretty white *Symphytum Zeyheri*. I hope I shall be excused if I spell the name wrongly, for I confess it is new to me, as I myself should have called the little specimen orientale. And then I come to the *Cyclamen europæum*. In some parts of the Cascine the ground is covered with the pink sweet blossoms and the darkly veined leaves of this pretty flower, whose bulbs are so difficult to arrive at; the fibre-like creeping stem running far away under ground, and being of so fine a nature that a hasty pull severs the frail thread and loses the clue to the bulb. I managed, however, to secure a small packet of them, which I hope will flower some day. I only found these *Cyclamens* growing beneath the shade of brushwood. Contrasting with this pink bloom were masses of the brilliant deep blue *Anchusa officinalis*; while here and there I came on the grand *Orehis pyramidalis*, with its full spike of crimsonish flowers and bright unspotted leaves. The shrubs were covered with *Weed-bine*, which trailed from bough to bough, scenting the air; and all the time I was gathering the flowers the carriages went rolling by, enlivened every few minutes by the rattling speed of one of the little American (?) carts, that give you the impression of a mad horse running away with a mad driver, each trying to outvie the other in wild vehemence.

Emerge from the wood at whatever point you may, and there is a beggar, sweeping down upon you like a hawk upon its prey—blind and lame, old and maimed, the very skeletons of Nature's festal board. One day one of the old-lady beggars penetrated the wood, and helped us to gather the wild flowers; and when she found her presence rather agreeable than otherwise, somehow or other each day I went the same old lady popped up with her poor wizen hands graced with a floral offering. But floral offerings are the fashion of the Cascine. At every turn flowers are offered you, Roses and Lilies in every tempting variety; but woe betide you if in a sou-less hour you accept the gift. Thenceforth you become the giver's victim. You must grin when she grins, accept more gifts, but never again without sous to offer in return.—FELIX-FEMINA.

#### ARUNDO DONAX VARIEGATA CULTURE.

Few, if any, of our tropical plants are more beautiful than the *Arundo donax variegata*, nor do I know of any plant so well adapted for filling the centre of a flower-bed, for growing in tubs on lawns, or for the conservatory. In fact, no



collection should be without it, its fine variegated foliage and its graceful habit make it a special favourite. It will flourish in any greenhouse during winter, and in spring it can be divided if necessary.

I had, two years ago, two very large plants; the roots or stools were 18 inches through, but, not then knowing better, in the autumn, when I took them up, I was foolish enough to divide them into as many as twelve or more plants, and put them into a cold greenhouse. To my grief I lost them all but one. Had I left them undivided until spring I might have saved every one, if, after dividing, I had placed them in gentle heat for a few weeks to have started them, and gradually hardened them off before planting-out time.

My one plant has made a good stool again this summer, and I hope to make two or three of it in the spring.

The soil that I find suits it best is a mixture of loam, leaf mould, and a little rotten cowdung. When established in the bed plenty of manure water benefits the plant, and it should be kept well soaked with water; in fact, it will almost grow in water.

If well managed it will send up canes 5 or 6 feet high, and then nothing can be more beautiful than it is.

In autumn, before it is touched by frost, it should be very carefully taken up, and then the canes will last all winter, or nearly so, making a very beautiful object for the greenhouse or conservatory. In the spring the old canes can be cut off when the young offsets begin to come up from the bottom.

I should be obliged by your telling me what country it comes from, and by any information you can give upon it.—CHARLES EDWARDS, *Bristol*.

[It is called by botanists *Arundo donax versicolor*, and popularly Striped Reed Grass. It is only a variety of the *Arundo donax*, or cultivated Reed, a native of the south of Europe and elsewhere.]

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

**PALUMBINA CANDIDA** (White-flowered Palumbina).—*Nat. ord.*, Orchidaceæ. *Lin.*, Gynandria Monandria.—Native of Mexico. Flowers about an inch across, all but pure white.—(*Bot. Mag.*, t. 5546.)

**THIBAUDIA JESSICE** (Hon. Mrs. John Bateman's Thibaudia).—*Nat. ord.*, Vacciniaceæ. *Lin.*, Decandria Monogynia.—Supposed to be a native of Caracacas. Flowers in racemes of ten or twelve, fleshy, pale red, as well as the calyx tube and flower-stalks. Leaves large and handsome.—(*Ibid.*, t. 5547.)

**CAECEOLARIA HYSSOPIFOLIA** (Hyssop-leaved Calceolaria).—*Nat. ord.*, Scrophularinæ. *Lin.*, Diandria Monogynia.—Native of the Quitenian Andes, at an elevation of from 10 to 11,000 feet, whence seeds of it were sent by Professor Jameson to J. Anderson-Hemy, Esq., Edinburgh. A shrub from 2 to 4 feet high. Flowers pale sulphur yellow.—(*Ibid.*, t. 5548.)

**PALAFOLIA HOOKERIANA** (Sir W. Hooker's Palafoxia).—*Nat. ord.*, Composite. *Lin.*, Syngenesia superflua.—Native of Texas and Arkansas. Flowers an inch or more across, pale or bright rosy red.—(*Ibid.*, t. 5549.)

**TRICHOPILIA TURIALVE** (Trurialva Trichopilina).—*Nat. ord.*, Orchidaceæ. *Lin.*, Gynandria Monandria.—Native of Central America, and named after the mountain on which it was found. Flowers yellowish white, with a deeper yellow lip.—(*Ibid.*, t. 5550.)

**DIANELLA TASMANICA** (Tasmanian Dianella).—*Nat. ord.*, Liliacææ. *Lin.*, Hexandria Monogynia.—Flowers drooping, pale blue, from half to three quarters of an inch in diameter, succeeded by an abundance of oblong berries of the above length, which hang for many weeks, and constitute the great beauty of the plant.—(*Ibid.*, t. 5551.)

**CATTELEYA EXONIENSIS**.—A hybrid raised by Mr. Dominy, from *Cattleya Mossiæ* impregnated with *Lælia purpurata*. Flowers bluish, the terminal half of the lip varying from rosy purple to crimson maroon, the lateral part white, sometimes margined with purple, the base yellow streaked with purple.—(*Floral Mag.*, p. 269.)

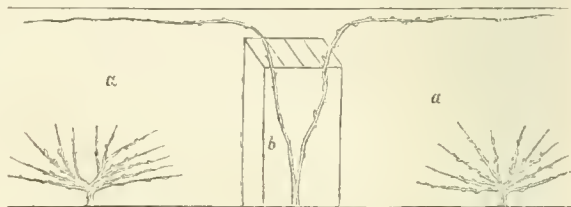
**FUCHSIAS**.—*Day Dream*, lavender with crimson base, tube and sepals bright crimson. *Lizzy Hexham*, very dark purple, feathered with crimson at the base, tube and sepals crimson. *Catherine Parr*, tube and sepals white, corolla crimson. *Lady Dumbello*, very large, bright mauve; tube and sepals crimson. All four were raised by E. Banks, Esq., of Deal.—(*Ibid.*, p. 270, 271.)

**STAURANTHERA GRANDIFLORA**.—Native of Moulmein. Flowers light blue, with a bright yellow throat.—(*Ibid.*, p. 271.)

**PHALÆNOPSIS LUDEMANNIANA**.—Very much like *Phalænopsis rosea* or *equestris* in habit, but far more beautiful. The flowers are of considerable size, and very beautifully coloured, "the oblong spreading sepals and petals having a pale, almost white, ground colour, and being marked all over with crowded transverse bars, which in one variety are of a deep cinnamon brown, and in another are of a delicate purple. These coloured bars show also on the outer surface of the flower. The lip is three-lobed, the larger and prominent middle lobe of an intense violet, the lateral ones whitish with yellow markings." A native of the Philippine Islands, introduced by Messrs. Low & Co., and named in compliment to M. Liidemann, of Paris, who first flowered the plant.—(*Florist and Pomologist*, iii., 257.)

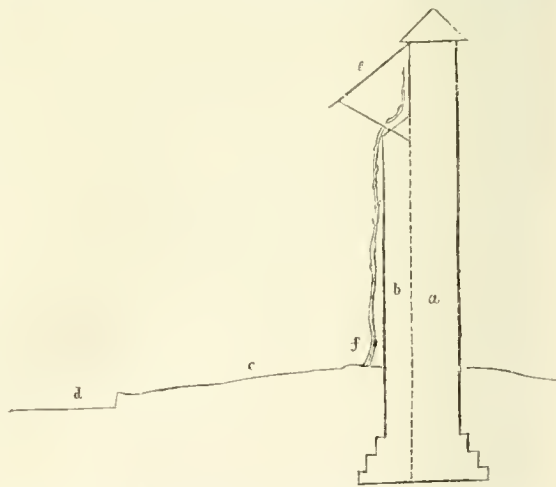
## WALL-TOP VINERIES.

I HAVE a wall with a due south aspect on which I am desirous of growing a few Grapes. The wall is a new one, and has been planted with wall fruit, but as the trees are quite young, and not more than 4 feet in extreme width of branch, I want to obtain all I can from the wall while they are growing. I send a sketch of the wall as now planted, only adding that the border under the wall is 12 feet wide.



a, Portion of Wall, showing Vine proposed to be planted against buttress b, and mode of training.

My proposal is to plant a hardy Vine against the buttresses, one of which is marked b, and train two rods to the top of the wall, then run them in opposite directions close under the



Section of Wall, showing proposed covering of glass over the bearing rods of the Vine. a, Wall, 8 feet 6 inches high. b, Buttress. c, Border, 12 feet wide. d, Walk. e, Glass-covering. f, Vine.

coping, fixing to the coping a run of glass about 18 inches in depth, and supported at the lower edge 12 inches from the wall. Will this improve the quality or quantity of the bunches? —SPRINGFIELD.

[We think your plan will do very well, only we would make the base of the triangle 18 inches, or even more, instead of 12 inches. We presume you mean that to be open space, and if so, a strip of open muslin or hexagon netting fixed there would keep heat in at the ripening time, admit plenty of air, and keep flies and wasps out. We would plant two Vines instead of one at each buttress.]

## WORK FOR THE WEEK.

## KITCHEN GARDEN.

WHEEL manure upon vacant ground when the weather is frosty, so that the walks may not be broken up, and let all spare ground be trenched up as soon as possible, in order to expose it to the action of the weather. For land that has been cropped with vegetables a dressing of fresh loam would in many cases be preferable to manure, and where this is wanted and can be obtained, it should be procured in order that advantage may be taken of frosty days to wheel it on to the ground. Where fresh soil cannot be obtained, charred vegetable refuse, such as prunings of shrubberies, edgings of walks, and many things which turn up in the course of the season may be cheaply made to form an excellent substitute. *Broccoli*, the weather, up to the present time, having been so favourable to its growth, the means before recommended should be resorted to in order to check it, and to prevent the frost having direct influence on the heart of the plant. *Cabbage*, earth it up, if not done, the weather now being favourable for that purpose. *Carrots*, if young ones are wanted early, seed should now be sown on a slight hotbed. *Cucumbers*, dung should be prepared for beds for early crops; it should be well shaken to pieces and mixed, as on this being properly performed depends the length of time which the bed retains its heat. *Dwarf Kidney Beans*, another crop may now be sown, if a constant succession is required. *Endive*, take advantage of the present fine weather to tie-up and house a quantity. *Peas and Beans*, if severe frost should be likely to set in cover those that are up with partially-decayed leaves; under ashes should never be used for this purpose. *Radishes*, every fine day draw off the lights entirely, this will give them strength to form roots. *Sea-kale*, continue to cover a small portion at a time. When the first portion has been cut, and the pots taken off, cover the roots with a little litter to prevent their being injured by frost. It is the practice in some places to lay the gravel on the walks in a ridge, after all the manure is wheeled on, this may now be done, as it is not often there is much doing in the kitchen garden at this season.

## FRUIT GARDEN.

Prune all kinds of fruit bushes, clear off the prunings, and have the ground manured ready for digging; also take advantage of leisure time to thoroughly examine the fruit-stores, and remove any fruits that are found to be decaying. Of course the frost must be excluded from the fruit-room, but on no account use fire heat, unless the temperature cannot otherwise be kept above freezing. Admit air on mild days, especially after keeping the room shut for some time; but as the fruit will now give off but little moisture very little air will suffice to keep the atmosphere dry, and no more than may be necessary to do this should be given. Orchard trees of large size are much neglected about many places, the head being allowed to become so thick of wood that fruit cannot be expected, save from the points of the outside shoots, and, unless accidentally thinned considerably below an average crop, the fruit is small and indifferent in quality. See that standard trees which have been recently moved or root-pruned are firmly secured against wind, and also let any root-pruning or transplanting remaining to be done this season be executed before frost sets in. Push forward pruning, nailing, tying espalier trees, and similar tedious operations, as fast as the weather and circumstances will permit.

## FLOWER GARDEN.

If not already done, let all borders be neatly trimmed up for the winter; in doing this, places intended for *Dahlias*, *Hollyhocks*, &c., next summer should be prepared by deep digging and working in plenty of good rotten manure; there is generally as much time to spare now for that kind of work as at planting-time. See that the coarse-growing plants which may be encroaching upon their weaker neighbours are reduced, so as to occupy their proper places. At this season of the year the amateur's attention must be directed principally to the effectual protection of his plants, though it must be borne in mind that we are very far from being the advocates of the nursing system which many florists adopt, the effect of which is seen in *Carnations* with yellow and spotted leaves; *Auriculas* and *Polyanthuses*, which at their proper blooming season will not bear a truss of flowers; *Tulips* with the foliage not only cankered, but very far in advance of the season, &c. The great secret is to keep the plants secure in bad weather, but at all other periods to let them be freely exposed to the action of the atmosphere, so that they may grow up stiff and strong, and be

enabled to withstand severe weather of an ordinary character. Nothing is more prejudicial to florists' flowers than cutting winds, they will bear frost with impunity when unaccompanied with the rude wintry blast. When cutting winds prevail shelter is indispensable; and those florists who have a bed of *Polyanthuses* under a north-east hedge of Hornbeam (this we prefer, as it retains its foliage throughout a great part of the winter), will be able to bear testimony to its efficacy. Net and cover *Tulip*-beds with bast mats, and if possible do not let the surface be frozen. Turn compost-heaps, and expose them to the action of frost, &c., and use every endeavour to collect refuse vegetable matter for future use.

## GREENHOUSE AND CONSERVATORY.

Although we have many beautiful plants which either bloom naturally at this season or require but little artificial management to cause them to do so, a scarcity of flowers is, perhaps, more commonly experienced at this than at any other period of the year; and where the display is, to a large extent, dependant upon what we term forced plants, considerable forethought and attention will be necessary for some time, in order to maintain a regular supply, for plants are not so easily excited into bloom in the dead of winter as in the spring. In selecting plants for forcing, every possible care should be exercised to choose such as are not likely to prove failures, for of things which are suitable for forcing many will bloom but poorly, if they are subjected to a high temperature without having been allowed a sufficient time to recruit their energies after making their growth. Next to *Camellias*, *Azaleas* are, perhaps, the most showy plants that can be had in bloom at this season, and, where there is a good stock of these to draw upon, some of the most forward plants of the commoner varieties should be placed in heat at once, moistening them overhead two or three times a-day; but unless plants can be selected which have made their growth and set their buds early in the season, they can hardly be expected to flower so finely as under more natural circumstances in spring, and, unless the buds are plump, there will be some danger of the plants starting into growth instead of flowering. Dutch bulbs should be largely used for present forcing, and where hardy shrubs are forced for the decoration of the conservatory, these should be brought into flower as soon as circumstances admit; for although many of these are very showy when well bloomed, and acceptable enough when had in flower in winter, they hardly seem in place under glass in spring, after the weather becomes fine, and when more choice plants in bloom should be plentiful. Do not forget to introduce into gentle heat a good batch of *Roses*, choosing the most promising plants of *Teas*, *Bourbons*, and *Hybrid Perpetuals*, which are the best kinds for winter flowering. Damp or insects soon do irreparable damage among softwooded plants at this season, and these must be very carefully attended to if they are to be carried over the winter in first rate condition. *Pelargoniums* should be kept rather cool and dry, giving whatever water may be necessary on the mornings of fine days, so that the superfluous moisture may be dispelled before evening. Keep the shoots thin, rubbing off such as can be spared; and if green fly is perceived upon any of the plants apply tobacco smoke at once. Herbaceous *Calceolarias* require very similar treatment to the above, except that they are very subject to the attacks of thrips unless afforded a moist atmosphere; and they must be narrowly watched for this enemy, and smoked lightly on two or three successive evenings if this pest makes its appearance, keeping the atmosphere moist, and giving air on every favourable opportunity to prevent the foliage flagging. *Cinerarias* for late blooming must also be kept cool and airy, and should not be allowed to suffer for want of pot-room; but these should not be trusted in cold pits after this, for they are exceedingly impatient of frost. Forward plants of these intended for flowering early should be encouraged with a gentle heat, keeping them near the glass, and admitting air at every favourable opportunity. If not already done, train climbers, cutting back freely such plants as *Passion-Flowers*, and reducing the dimensions of all as far as can consistently be done, so as to admit as much light as possible. Remove decaying leaves daily, and re-arrange the plants in bloom occasionally.—W. KEANE.

## DOINGS OF THE LAST WEEK.

Thick mist and fog, with a high and rising barometer, gave signs of dry weather coming, terminating in a frosty morning and a bright sun on Wednesday, which will do much good in giving



strength to all little growing plants inside and outside. Fight as we will against it, the dull drizzling fog, making all things look dark during the day, and pretty well invisible at night, does depress alike mental and physical energies; and men insensibly get into an easy, jog-trot, lifeless way of going about, as if they felt little or no interest in anything they were doing, purely the result of physical circumstances, and not from any determination of will; but let the sky become clear, and the sun again come forth in his splendour, and there seems to be generated, as if by an electric touch, a new life of activity and energy. We have never known a garden, in which there was at any time a want of work to go to, a very pleasant thing to contemplate, and relieving the mind from a vast amount of care and perplexity; just as having a great deal too much to do loads the mind with anxiety, and involves a great deal of consideration as to attending to what is most necessary; whilst other work must stand in abeyance. However some other folks need reminding, it is rare that from want of work in a place the gardener requires it to be brought to his recollection that

"An idler is a watch that wants both hands,  
As useless if it goes as when it stands."

But it is very pleasant to see when, during a course of bad weather, there has been a little relaxation of energy, that at once, when the weather changes for the better, and without any reminder, there is a greater cheerfulness of demeanour, and a greater activity in feet and hands.

It is becoming the fashion to cry out about the carelessness, selfishness, and idleness of workmen and servants, but employers have often themselves to blame. Faithful attention to duty will not be long maintained at full stretch, if it is manifested only on one side. We once noticed a case of two neighbouring farmers who had a similar amount of corn crops, and engaged the same number of men for the harvest work. One farmer kept his men out of doors in a couple of very wet days in the beginning of harvest, the men eating their victuals as best they could under the protection of a bank; suffering more then, in their soaked clothes, than when at work. The other farmer kept his men doing odd jobs about the homestead, so that they were pretty dry and comfortable, and what was the result? Why simply this, that the last-named farmer finished his harvest work in three weeks and two days, and the first referred to had something to do after the month was out. When the behind-hand group of men were joked about it, they said they did their best, but they did not know how it was, they seemed to have a heaviness about them that even extra beer would not remove. We believe the soaking made all the difference. We believe if there were more considerate sympathy there would be fewer complaints. We also believe that considerate sympathy shown by an employer is not only pleasant to all concerned, but that it is also one of the best paying of investments. What comparison can there be between the mere working to pass the time, and working with a will and a resolution to make the best of the time and circumstances? No employer can obtain the latter result merely from acting up to what is just; there must be sympathy for a man's condition and comfort.

#### KITCHEN GARDEN.

In addition to what was said last week, the changes in the weather enabled us to fork the surface among Lettuces, young Cabbages, &c., as well as to look after coverings for Cauliflower in head, Lettuce and Endive for salad, and for banking up beds of Celery. Old stubble or other loose litter is better for this purpose now than extra earth, if the Celery is grown in beds. Ashes sifted from the furnace, and a little lime mixed with them, should be thrown over the bed, and a little into the head of the plant before the litter is applied, as a preservative against slugs and worms, that are otherwise apt to disfigure the heads. Of Mushrooms and Sea-kale we have an abundant supply, and for a change have had some nice dishes of blanched Turnip-tops; any place where there is a little heat and darkness will do for this purpose, and the Swede is the only one fit for this system. The tops will come of a bright yellow, and should be cut when from 6 to 7 inches in length. Many prefer them to Sea-kale. The bitterness is much moderated by the blanching.

*Asparagus*, just moving, we have given this a couple of inches more light soil. As we do not wish to have it before Christmas we will not hurry it, as we have run ourselves rather short. The roots can hardly be obtained for forcing unless you grow them. They are frequently advertised, but very often when you buy them they are of little use. Some time ago a nurseryman, wishing the space occupied by some old beds, told us we might

have them for a trifle; but the expense of carriage itself was a dead loss. A huge hamper came, enough for a couple of dishes a-week for a month if they had been worth anything. The takers-up knew nothing of the necessity of buds in the crowns, or, if they did, they managed to remove them, for none came with the roots. That all might be clear and above board, the plants were placed carefully in the ground, and covered over with 3 inches of leaf mould, and next summer they managed altogether to throw up three or four stems. Of course this is by no means always the case; but those who have a good bearing bed of *Asparagus* have generally so little desire to part with it, that when *Asparagus* must be taken up to be forced, it generally must be grown at home for the purpose. Although we have not such conveniences ourselves, a few beds or pits to be forced where they grow, would be a very economical plan for all the later crops before it came in the open air. To Cauliflower, Lettuce, Radishes, Endive under protection gave all the light and air possible by complete exposure in the clear mild days, and moved all the withered and decayed leaves, as well as stirred up the soil. Trapped lots of mice that had begun their depredations. *Rhubarb* in the Mushroom-house is now growing away nicely. We have often been puzzled as to the reason why *Rhubarb*, with leaves all dead and decayed long before the leaves of *Sea-kale* are withered, is yet so much longer than *Sea-kale* in starting, though placed in similar circumstances as respects heat. Our first *Rhubarb* will require quite another week, and we have been cutting *Sea-kale* for a fortnight. When the season is further advanced the *Rhubarb* seems as easily excited as *Sea-kale*. Some friends of ours have had first-rate *Rhubarb* after Christmas, by having a large root in a barrel close to the kitchen fire. It will do very well in any house where there is a little heat. *Sea-kale* does also very well by the side of a kitchen or scullery fire if planted in a pot or box, and covered with another so as to keep out the light. First-rate Chicory for salads may also be thus obtained.

Brought a lot of Turnips under cover to keep frost and devourers from them, taking them up rather small, not larger than a common-sized fist, as then they are juicy, and not liable to be spongy for a long time. Some of these little Turnips keep well in winter, and they are very sweet, and from their firmness more nutritious than the most of the whites, but it is of little use keeping them, or growing them for any purpose, until some great disciple of Soyer can bring them into fashion. At present there seems a necessity that Turnips shall be white at table. When bread is dear our labouring people know how sweet and nourishing a good well-boiled Swedish Turnip is, mashed by itself or with other vegetables.

Took up also a lot of Horseradish, Parsnips, and Jerusalem Artichokes, and packed some litter round the tops and roots of Globe Artichokes, to keep the frost from them. For soups, &c., *Jerusalem Artichokes* may remain for years in the same place; but when it is desirable to dress them as a vegetable, in lieu of *Asparagus*, Potatoes, &c., the crop should be grown and treated as Potatoes, taken up and planted every year. Then the crop will not only be heavy, but all the tubers will be equally fresh and tender to the centre, and boil thoroughly, without the outsides being wasted or spoiled by absorption of too much water. At one time we had a prejudice against these tubers, the sight of them used to be enough; but now, when boiled as above and dished with a little pepper and salt, and gravy, we have no doubt they would be relished by many of our cottagers, and if so, might occupy any out-of-the-way corner with propriety. Many an unsightly place, as a pigstye, a dunghill, &c., might be concealed in the summer months by planting round it these robust growers. We have often seen them produce their yellow flowers, but never so freely as this season. The place where ours grew was shaded by a high hedge immediately in front of them; but for that shade, they would have looked like a row of small-flowered Sunflowers.

#### FRUIT GARDEN.

The change in the weather enabled us to surface-fork the space between Strawberry-rows, and place some of the decayed hotbed dung between them; also, to surface-stir the ground over the roots of pyramidal Pear trees, and give a mulching of the same material, as the trees had produced very heavily for some years, and now need some nourishment. Went on pruning such trees as we could get at them. Gave all the air and light to pots of Strawberries under protection. Removed a few hundreds of Scarlet Pelargoniums from the orchard-houses, into the vineries and Peach-house, that the orchard-houses may be entirely empty of all such plants for a month or two, and, therefore, avoiding the necessity of keeping frost out, or from tender



plants, by having recourse to covering up, &c. Besides this, we think the trees are benefited by having a few degrees of frost. Injury in severe weather can be avoided by shutting the houses close, and then the dryness and stillness will prevent harm, even in frosts that are severe. But for the necessity of filling Peach-houses, vineries, &c., with tender plants, we would prefer that all should have a few degrees of frost before they are cleaned, as being a great help, alike for destroying insects and their larvae, and putting the trees at once in a state of rest. For the want of this frost to any extent, greater care must be taken in washing and cleaning trees and houses, and whitewashing the walls.

Our mixture, spoken of the other week, of blue or lampblack, or fine soot and sulphur, looks and stands very well, the addition of a little black just toning down what would otherwise be the fierce glare of the white limewash. This is also of importance, as the walls will mostly be covered with shelves of plants before there is any obstruction of light from plants on the roof, and in March and April the reflection of the heat and light from a white surface, would scorch tender plants near it. The toning down of the colour will cause a good deal of such sun heat to be absorbed. These shelves, however, help to dirty the wall again, and, therefore, it would be a good plan to wash again in summer with white material all the wall, say with the exception of 18 inches nearest the top, and then the white surface below would give more reflection of light to the house, whilst the darker colour at the top of the wall would prevent all danger of scorching. We have known some cases where glass was blamed for scorching and burning, when the bright white wall was the cause of the evil.

But for the advantage of the little frost referred to above, neither Peach-house nor vinery will be otherwise injured, if for the sake of plants in them frost is entirely excluded. They will come little or nothing before the usual time if the Peach-house with artificial heat does not rise above from 35° to 40°, and if the vinery does not rise higher than from 35° to 45°. When sun heat raises them higher the houses should have abundance of air, unless when the air is frosty, and in all mild weather plenty of air should be given. In starting any such houses 40° for a Peach-house, and 45° for a vinery is high enough for the first week, raising each 5° in the course of a fortnight. All the operations of Nature are performed gradually. Peach and Vine-borders out of doors, when the trees are intended to be forced, should now be protected with litter.

#### ORNAMENTAL DEPARTMENT.

Had the pleasure ground thoroughly cleaned up, walks swept, and lawn rolled with a light wooden roller, not because it is better than a heavy iron one, but because it answers the purpose of levelling all wormcasts, &c., and can be more easily done. A bole of a tree, equal at both ends for a four or five-foot length, and 1 foot in diameter, makes a capital roller for such a purpose, and does well for scattering the dew and levelling a lawn when ladies wish to play croquet early. The walks being rather smooth and fine on the surface we have not rolled, but merely swept them nicely, believing that the slight roughness on the top will cause them to be less influenced by frost than if they were smooth and hard; and just on the same principle as we wish the ground among all young Lettuces, Cabbages, Onions, Spinach, &c., to be rough and open now, instead of smooth on the surface, battered down by rain or otherwise. Our walks are not so rough as to let rains through them, instead of throwing off the wet to the sides, but we have proved several times that just a little roughness on the surface was better every way, and especially before frost in winter, than having them rolled smooth. Would our friends give us the results of their experience? as between the slightly rough and very smooth there is a great difference in the labour necessary, and in some gravels the smoother the surface the more will the walks be broken up by frost, and the more will they lift and clog when thaw comes. Proceeded with pruning shrubs, and will enrich and dig borders of Strawberries and beds as soon as we can.

Examined Dahlias and Lobelias in a shed, and find no signs of rotting or damping. Too much air, and too little moisture can scarcely be given to Auriculas, Polyanthus, Carnations, Pinks, Stocks, Wallflowers, &c., in cold pits, and in severe frost they should be cut close, and a little protection given if very severe. Bedding plants look all the better of being removed from cold pits and frames to roomy houses, where a little fire heat could be given. The greater body of air about them, preventing sudden extremes, is of itself a great advantage. Some of the Scarlet Pelargoniums that we faggotted in pots will want a little looking-over at the tops, to remove damped ends; but

they look as if all right below, little buds breaking, but requiring good glasses to be used to see them. Let us again remind all those who tried the plan to be very chary of the waterpot. If the pots stand on a moist bottom, and little or no artificial heat is used, no water will be wanted for a long time to come. Excess of water, and want of patience, are equally to be guarded against. Chrysanthemums are getting over, what are left need a fair supply of water. Pelargoniums of all the florists' kinds should be kept clean, rather dry, and have plenty of room, and should have every leaf dry before the sun touches them. Pruned a number of Fuchsias preparatory to their breaking, and potting and growing on. Cinerarias coming into bloom, and placed in a house where fire heat is used, should be kept as cool as possible, and as damp at the roots as they will bear, and yet be healthy. A good plan is to set them on moss kept dampish, rather than give so much watering at the roots. Chinese and double Primulas require more dryness and warmth to keep them healthy. If the Cineraria is kept moist at bottom, and in a temperature of from 40° to 45° at night, it will rarely show any signs of insects. A high temperature, and a dryish atmosphere immediately around them, are the worst things for the cleanly health of these and herbaceous Calceolarias.

For general greenhouse plants the night temperature should range from 40° to 45° with artificial heat, with a rise of a few degrees in dull days, and from 5° to 15° in sunny days, giving all hardwooded plants as much air as possible in mild weather, and a little only at the top of the house in preference to much fire heat in severe weather. Much excitement to growth in dull weather is not only unnatural but often promotes unhealthy extension, mere drawing out, instead of solid additions, as in true growth under the influence of sun. This should be kept in mind in forcing all kinds of hardy shrubs, and even Indian Azaleas, not to hurry on with too much heat at first, and especially in dull weather, as that will have a tendency to make flower-buds drop. When such plants as Justicias in bloom, Euphorbia jacquiniiflora, Poinsettia pulcherrima, Eranthemum pulchellum, Gesnera zebрина, Epiphyllum truncatum, &c., are placed in a greenhouse or conservatory, then the temperature should rarely fall below 50°, scarcely ever below 45°; and if Cinerarias, Heaths, &c., are to be kept in the same house, these, and especially Cinerarias, must be kept lower by placing them by themselves, giving them a cool moist bottom to stand on. In plant-stoves, unless for particular things in bloom, from 55° to 60° will be quite high enough, the first for night, the second for day, with a rise from sunshine.

Here, in addition to other work, we collected our *Caladiums* which we had allowed to die down and rest, and in order to get them in little space, we turned out the corn-like roots, and potted them in small pots in sandy peat and loam, set them in a rather warm place beneath a stage in moss, and covered the pots with moss, so as just to maintain a little moisture in the soil without watering. These will be shifted into larger pots several times as they grow. We generally allowed them to start first before fresh potting, but the roots do not keep well if long below from 50° to 55°, and we turned them into fresh small pots now, chiefly to make them go into a third of the room; and, besides, there may be an advantage in not disturbing the fresh roots much as they begin to grow, which was apt to be the case when the corns were taken out of the old large pots, after the fresh roots and shoots had begun to come. Coldness, and wet when in a cold state, are very prejudicial to these roots. We have known them keep very well planted out, and in rather a damp state all the winter, and partly at rest too, when in a temperature of from 60° to 70°. In pots, resting and moderately dry, they should never be lower than the above, from 50° to 55°, and the closer to 55°, or a little above it, the better. These, like Gesneras, Gloxinias, Achimenes, &c., are fine things for summer show where winter room is scarce.—R. F.

#### TRADE CATALOGUE RECEIVED.

Sutton & Sons, Reading.—*Sutton's Spring Catalogue and Amateur's Guide for 1866.*

#### COVENT GARDEN MARKET.—DECEMBER 16.

THE market has begun to assume its Christmas appearance; Holly and other evergreens are arriving by the wagonload, and Christmas-trees of all sizes and prices meet one at every turning. Mistletoe is not forgotten, and it was only this morning that we noticed several railway



trucka filled with it. Grapes are sufficient for the demand. Pines are plentiful, but Apples are indifferent in quality and short in quantity. The best dessert Pears comprise Glou Morceau, Winter Nells, Chantrel, and St. Germain. Vegetables are plentiful; of Asparagus and Sea-kale there is a fair supply, and a few Kidney Beans have made their appearance, but are not yet regularly supplied.

## FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... $\frac{1}{2}$ sieve	1	0 to 2	Melons..... each	3	0 to 5
Apricots..... doz.	0	0 0	Mulberries.... punnet	0	0 0
Cherries..... lb.	0	0 0	Nectarines.... doz.	0	0 0
Chestnuts..... bush.	8	0 16	Oranges..... 100	4	0 10
Currants..... $\frac{1}{2}$ sieve	0	0 0	Peaches..... doz.	0	0 0
Black..... doz.	0	0 0	Pears (kitchen).. doz.	2	0 4
Figs..... doz.	0	0 0	dessert..... doz.	1	6 6
Filberts..... lb.	0	9 1	Pine Apples.... lb.	4	0 6
Cobs..... 100 lbs.	0	140	Plums..... $\frac{1}{2}$ sieve	0	0 0
Gooseberries... $\frac{1}{2}$ sieve	0	0 0	Quinces..... $\frac{1}{2}$ sieve	3	0 4
Grapes, Hambro.. lb.	4	0 7	Raspberries.... lb.	0	0 0
Muscats..... lb.	5	0 8	Strawberries... lb.	0	0 0
Lemons..... 100	6	0 10	Walnuts..... bush	14	0 20

## VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	0 to 0	Leeks..... bunch	0	3 to 0
Asparagus.... bundle	8	0 12	Lettuce..... per score	1	0 2
Beans Broad.. bushel	0	0 0	Mushrooms... pottle	1	6 2
Kidney..... 100	0	0 3	Mustd. & Cress, punnet	0	2 0
Beet, Red..... doz.	2	0 3	Onions..... per bushel	3	0 5
Broccoli..... bundle	1	0 2	pickling..... quart	0	0 6
Brus. Sprouts... $\frac{1}{2}$ sieve	2	0 3	Parsley..... $\frac{1}{2}$ sieve	1	0 1
Cabbage..... doz.	0	9 1	Parsnips..... doz.	1	0 2
Capicams..... 100	1	0 2	Peas..... quart	0	0 0
Carrots..... bunch	0	4 0	Potatoes..... bushel	2	6 4
Cauliflower.... doz.	3	0 6	Kidney..... do.	3	0 4
Celery..... bundle	1	0 2	Radishes doz. bunches	0	6 1
Cucumbers..... each	2	0 3	Rhubarb..... bundle	0	0 1
pickling..... doz.	0	0 0	Savoy..... doz.	0	9 1
Endive..... score	1	0 2	Sea-kale..... basket	2	0 3
Fennel..... bunch	0	3 0	Spinach..... bushel	2	0 3
Garlic and Shallots, lb.	0	8 0	Tomatoes..... $\frac{1}{2}$ sieve	0	0 0
Herbs..... bunch	0	3 0	Turnips..... bunch	0	4 6
Horseradish.. bundle	2	6 4	Vegetable Marrows dz.	0	0 0

## TO CORRESPONDENTS.

\*.\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

AMPUTATION OF BRANCHES (*H. Stillwell*).—Common tar is not injurious, if applied to the surfaces of the cuts; it prevents wet settling in the cracks, which would promote decay. Do not add corrosive sublimate, and do not use gas tar.

KEEPING GRAPES (*J. C. J.*).—We know of no instance of Grapes cut from the Vine keeping for nine months.

PEAR AND PLUM ON WALL (*Old Subscriber*).—The Easter Beurre Pear on the quince stock will do very well on your west wall. It ought to outlive the planter, and a generation or two besides. We should prefer for your south wall Jefferson's Plum to either Kirke's New Blue or Prince Englebert.

CORDON TRAINING (*An Amateur*).—The Rev. T. C. Bréhaud's book on Cordon training was published by Messrs. Longman & Co., Paternoster Row.

RAISING FLOWERS FOR MARKET (*H. M. B.*).—We answered you at page 371 of our Number published October 31st, but your initials were transposed to "M. H. B."

COVERS FOR OUR VOLUMES (*R. Dingl*).—We supply them for each volume—two annually. Each can be had from our office, post free, for sixteen stamps.

IRENE HERBST LOSING ITS LEAVES (*W. H. S. D.*).—It is usual for the plants to lose their leaves in autumn in so high a temperature as 55°. We presume that is the mean of the day and night temperature; from 40° to 45° is sufficient for fine heat. The plants will regain their foliage.

DEATH'S-HEAD MOTH (*Trecalyn Gardens*).—The Death's-head Moth is scientifically known as *Sphinx* (or *Acherontia*) *Atropos*. Its caterpillar feeds on Potatoes, Jasmine, Tea Tree (*Lycium barbarum*), Thorn Apple, Spindle Tree, &c., but is generally found on the first-named plant in the autumn. The pupa state lasts about a month, and the moth appears in September and October; it flies but seldom, lodging on the trunks of trees and among plants by day, but instances are recorded of its flying across the sea, and being taken at considerable distances from land. Such caterpillars as are hatched late in the season pass the winter in the pupa state. The surface caterpillars, which attack the Turnips, are those of the Dart Moth, *Agrotis segetum*. They appear in the perfect state in May and June.—W.

AZALEA NEGLECTED (*A. C. C. H.*).—The plant should be potted at once in a compost of fairly sandy peat two-thirds, and one-third turfy light loam, with one-sixth of silver sand, the whole chopped and made fine. The ball should not be reduced beyond removing the old drainage, and the soil not occupied with roots; drain well, and pot with the stem slightly elevated in the pot. Water so as to make the soil moist but not very wet, and do not water again until it becomes rather dry. The soil should be kept neither dry nor wet. Sprinkle the plant overhead once a day with water of the same temperature as that of the house for a fortnight, and then discontinue the use of the syringe until growth is made in spring. We cannot say, with certainty, that this treatment will cause your plant to recover. Give it a light, airy situation in a cool greenhouse.

PLANTS FOR GAS-LIGHTED ROOM (*Randolph*).—The best of all plants for such a position is *Polypodium vulgare*, and the next best *Pteris serrulata*. *Selaginella denticulata* will endure for a long time, and so will *S. Willdenowii*, which is of Fern-like habit, after the fronds become fully developed. Of British Ferns *Asplenium adnigrum*, *Blechnum spicatum*, *Polystichum angulare proliferum*, *P. lobatum*, *Lastrea dilatata*, and *L. Filix-mas* do fairly, as do the following exotic kinds:—*Deodia lunulata* and *D. caudata*, *Blechnum australe* and *B. occidentale*, *Asplenium menanthemum*, *Lastrea glabella*, *L. pubescens*, and *L. acuminata* (*Rileysana*), *Lomaria magellanica*, *L. Patersonii*, and *L. alpina*, *Nephrolepis exaltata* and *N. pectinata*, *Nipholobus pertusius*, *Phymatodes (Polypodium) pustulata*, *Onychium japonicum*, *Polystichum proliferum*, *Platyloma falcatum*, *P. rotundifolium*, *Polypodium rugulosum*, *Pteris eretica albo-lineata*, and *P. umbrosa*. These we have tried with fair success, but have found them very variable; at times they would do well, and at others not at all. The main point is to have the fronds fully developed before placing the plants in the room. Few flowering plants will do in such places from the extreme dryness of the air; most, however, do fairly for a brief season whilst in flower. None will grow in such situations as the centres of rooms.

SMELL FROM HOT-WATER PIPES (*A Constant Reader*).—Your pipes were coated with the right composition—linseed oil and lampblack, the smell from which would soon have passed off had the paint been put on when the pipes were hot. If you were now to heat them to 180°, or make the water boil, the smell would pass off and not trouble you again. We paint our pipes hot at first, and keep them hot until the paint dries, and we have no smell afterwards.

FLIES IN VINERY (*John Caldwell*).—The large blue or "flesh flies" will certainly spoil Grapes when they attack them, which they do sometimes when the skin is broken, pierced, or cracked. No one can guard against their attacks, and we do not consider you at fault for their sucking at the Grapes; but you may be blameable for not taking steps to prevent a continuance of the mischief they were doing. If hexagon netting had been nailed over the openings by which air was admitted, the flies could not have entered the house, and those that were already there might have been tempted to have drowned themselves in bottles containing a mixture of beer and sugar or treacle. Enclosing the Grapes in muslin bags would have shown that you meant to do what you could to save the Grapes from their attacks.

HEAVIEST BUNCH OF GRAPES KNOWN (*Eques*).—It would be difficult to state which is the heaviest of known bunches; but that of the Syrian variety, grown at Welbeck, weighing 19½ lbs., is the heaviest well-authenticated bunch that we remember. Its length was 19½ inches, and breadth across the shoulders 19½ inches.

JOURNAL OF HORTICULTURE (*H. R.*).—The cheapest mode for you to obtain the Volumes for 1865 is from Mr. Menzies, Bookseller, Edinburgh. They are bound in cloth, gilt. To have the Journal weekly and promptly you had better have it direct from our office. The postage on two copies would be 2d., unless two stamped copies were sent.

BEDDING GERANIUMS BLOOMING IN WINTER (*N. C. Nenagh*).—Their blooming at this season will not injure them in the least. Cut them in in March or April, and they will become fine plants again by bedding-out time if shifted in a fortnight or three weeks after cutting-in.

CATERPILLARS ON THORN HEDGE (*W. S.*).—Lime spread on the surface at the roots of the Thorns is not likely to prevent the occurrence of the caterpillars, for these spread themselves about the garden, fasten themselves to various plants and there pass through their chrysalis state, from which the white parent butterflies (very like the common Cabbage butterfly) emerge early in summer. These butterflies deposit their eggs on the Thorn hedge. Weak ammoniacal gas liquor syringed over the hedge in June, or the gas lime sprinkled over it, mixed with soot, might prevent the butterflies depositing their eggs on the hedge. You may obtain the *Lychuis* seed from any principal seedsman who advertises in our pages.

PRUNING GOOSEBERRY BUSHES (*P. P.*).—The side shoots along the main branches should be cut in to half an inch or an inch from the place from which they take their rise, leaving the buds closely studded at their base. These, and the short spurs, which should be left entire, bear the fruit in the following season. The leading shoots, or those at the extremity of the main branches, should be shortened to 3 inches if the trees are not intended to become larger; but if the trees are young such shoots may be shortened by two-thirds of their length. Keep the centres of the bushes open, the branches regularly disposed at from 9 inches to a foot apart, so that light and air may be admitted to every part alike.

COLEUS VERSCHAFFELTI SHOOTING DAMPING (*Idem*).—We told you a fortnight ago that this plant would live in a temperature of 45° in winter; but it was on condition that the atmosphere was well ventilated, and the soil only moist enough to prevent the wood shrivelling. In that way we have kept the plant successfully. Yours, however, has lost the points of the shoots in a temperature of 50°, and we have known the same results take place in a temperature of 60° at night, not in consequence of want of heat, but from a superfluity of moisture in the atmosphere, and a soil much too wet, and this, we think, is the cause in your case. Providing the stems of the plants remain fresh they will put out side shoots in spring quite as well as if the points were entire. We presume yours are old plants; they are not so safely wintered as cuttings struck in summer, and kept in small pots.

CRYPTOMERIA ELEGANS (*Hugh Strachan*).—We advise you to have a moveable cover for it as you propose, for although, like *C. japonica*, a native of Japan, yet this is not sufficiently hardy to endure a severe season. Mr. Veitch states that it is very fast growing, and grows freely on even the poorest soils.

**ASPARAGUS-BEDS MAKING** (*W. J. De Putron*).—The best time to make Asparagus-beds is during dry weather in October or November, but any dry time between September and March will do. The ground should be well drained by having drain pipes laid 4 feet deep, and 21 feet apart if the soil is porous, but only 15 feet if it is of a heavy tenacious nature. The whole of the ground to be planted should be trenched to a depth of 2 feet 6 inches, and if the subsoil is poor and bad it should be removed, retaining only the top soil, fresh soil being brought to supply the place of the bad. In that case an opening should be made the width of one bed, 4 feet 6 inches for the bed, and 2 feet for the alleys, two of which will be required for the first bed, but only one for the others. Lay the good soil on one side or both, taking out the bad soil and removing it at once. The soil brought to replace it should be of a good rich loamy nature, and it will be all the better if it contains sand. Throw in the old soil to the depth of 6 inches all over the bottom, then 6 inches of not very rotten manure, but at least half decayed; sheepdung is the best if you can obtain it, but ordinary farmyard or stable manure will do well. Lay upon this 8 inches of half-decayed leaf mould, and then 3 inches of sand. Sea sand is excellent for this purpose, but good sharp sand is also eligible. Then put in 6 inches of the fresh soil, and mix the whole together well, stirring to the bottom. Any old soil that may remain should form the next layer, which may be 3 inches thick, and this will bring the soil up to its original level. To allow for sinking put on 3 inches of manure, leaf mould, sand, and fresh soil, and work all up together, mixing well down to the first layer of soil already mixed. The whole is to be done in this manner, calculating on the beds being 4 feet 6 inches wide, and the alleys between 2 feet wide. This done, leave the ground as it is until March, when, during a dry time, mark out the beds by driving in a stake at each corner to show where the beds and alleys are, and throw out the alleys over the beds, taking from them 6 inches of soil. Make the surface of the beds level, and plant three rows of plants, the two outside ones 9 inches from the sides of the bed, and the other exactly in the centre. The plants are best two years old, neither more nor less, and they should be planted 9 inches asunder in the rows, with the crowns so that they will be 2 inches below the surface. In planting, make a straight line by the line, taking out a trench, and spread the roots by the face of it against but beneath the line. Do not make the roots fit the opening made for them, but make it so deep that it will allow of their being spread out straight. Press the soil gently about them, level the surface, and the work is complete. If the soil is all good, then you will proceed as above, only omitting the fresh soil. The best time to plant Asparagus is a little before it begins to grow, which, in your locality, will be, we think, from the middle to the end of March.

**ORCHARD-HOUSE PLANTING** (*H. P.*).—We would plant the back wall with four trees; one at 64 feet from each end, and the other two dividing the space equally. You could hardly do better than have these: Noblesse, Royal George Peaches, and Violette Hative and Elrige Nectarines. We presume you mean the roots to go under the pathway. For the front you may plant against a trellis, height at back 34 feet, and going to the front, which would allow of enough of light to the bottom of the wall, if the trellis came no more than 5 feet on the base line; or you might have low standards in front, either planted out or in pots. The trellis would give the least trouble; for that you would find four plants sufficient, as one of Bellegarde, and one of Walburton Admirable Peach, one of Pitmaston Orange Nectarine, and any other you may fancy. In this front border you might have trees in pots, until the trellis was filled. You would see in "Doings of the Last Week" lately, and in articles by Mr. Rivers and "G. H.," what would suit you as respects ventilation.

**BOOK** (*T. T.*).—"The Cottage Gardener's Dictionary" gives the names of plants. It can be had from our office free by post for 5s. 4d.

**MAIDEN-HAIR FEAN DAMPING** (*E. M. H.*).—Moisture on the fronds is the cause of their damping at this season, when the old fronds of some

kinds for the most part die off preparatory to the appearance of fresh ones. We do not approve of keeping the fronds damp at this or any other season. The atmosphere should now be dry, and the soil just moist, and no more than that, unless the plant is growing, when it should be well and regularly watered.

**FLOWER GARDEN PLAN** (*A Devotee of the J. of H.*).—Your centre oval bed is far too large for the other beds, it will drown them. You will lessen the evil by planting the bed with various things. Your mixture of Golden Chain and Amaranth will do very well, if the Amaranth will bear pinching. Your border of Lobelia next the grass will not be telling; place it a foot farther back, and have 8 inches of Cerastium tomentosum. Then your four circles will do; but we do not like the four rounded parallelograms to be planted half with one thing and half with another. Better place one in the centre as Stella, and surround all sides with Alua, &c. The less you place in the four-foot-wide border in front of your greenhouse, in which Vines are planted, the better. The thicker the ground is covered the worse it will be, but you may have flowering plants of any kind if planted rather thinly, so that the sun may find its way a little between them. You may do much with your dung-frames, provided you manage, as detailed in "Doings of the Last Week," to prevent the noxious steam passing into them, and surround the frames with litter so as to throw top dry heat in through the boards; not only will bulbs come on nicely, but you may force hardy dwarf shrubs as Roses, Deutzias, Jasmines, Rhododendrons, Lilacs, and such herbaceous plants as Delphinium, Lily of the Valley, Musk Violets, &c. Hardy annuals, Pinks, Carnations, Wallflowers, &c., may be brought forward; and Cinerarias, Primulas, &c., may be greatly forwarded by giving them plenty of air in winter, with a little bottom heat. They will also do for forwarding your bedding plants, forcing Asparagus, Sea-kale, &c. We will think of your case; but you cannot have read all in our late Numbers, or you would have received many hints to suit you.

**ROSES FOR THE NORTH OF ENGLAND** (*J. Hunter*).—An excellent list of Roses for the northern counties is given by the Rev. Mr. Radclyffe in No. 194, Vol. VII, page 468. The Tea Roses are too tender to succeed in your situation without the protection of a wall. Some of the hardiest might, however, do planted out, if a good thickness of moss or other non-conducting material were placed over the roots before winter, and branches of evergreens or furze stacked amongst them so as to afford shelter. You might, in addition to Gloire de Dijon, try Somhreuil, Abricoté, Bougère, Safrano, Belle de Bordeaux, Homer, and Nina. If the situation is not very bleak, and the soil is dry and warm, the free-growing Bourbons ought to succeed with the roots protected as above recommended. You may plant any of the Chrysanthemums grown in the south, as the same degree of frost that would injure them there would do so with you.

**NAMES OF FRUITS** (*J. Chinery*).—1, Josephine de Malines; 3, Beurré Clairgeau; 4, Beurré Sterckmans. (*J. Crofts*).—Apples: 1, Flower of Kent; 3, Reinette du Canada. Pears: 1, Beurré de Rance; 2, Hayshe's Victoria; 3, Hayshe's Prince of Wales; 4, Eyewood. (*Alpha, Acton*).—1, Vicar of Winkfield; 2, Colmar. (*G. R. Biagg*).—1, Norfolk Beech; 2, Wormsley Pippin; 3, Beauty of Kent; 4, Winter Greening; 5, Fearn's Pippin; 7, Sykehouse Russet. Pear: Beurré d'Arcemberg. (*G. R.*).—Pears: 1, Uvedale's St. Germain; 2, Easter Beurré; 3, Chantmontel; 4, Moccas; 6, Damclow's Seedling; 7, Golden Reinette; 8, Norfolk Bearer; 9, Claygate Pearmain; 10 and 14, Southampton Pippin; 11, Sykehouse Russet; 12, Winter Pearmain; 13, Scarlet Nonpareil. Apples: 2, Mere de Ménage; 3, Bleheim Pippin.

**NAMES OF PLANTS** (*East Sussex*).—1, Bonssingaultia baselloides; 7, Echeveria retusa; 8, Davallia novae-zelandiae; 9, Pleopeltis lycopodioides; 10, Pteris tremula; 11, Polystichum coriaceum; 12, Marattia bicolor; 13, Pteris crenata; 14, Pteris hastata macrophylla; 15, Polystichum angulare coriaceum; 16, Sedum carneum variegatum. We cannot name Begonias from leaves.

# METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the Week ending December 16th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . . 10	30.564	30.515	45	30	49	48½	N.E.	.00	Foggy; cloudy; overcast; slight frost.
Mon. . . 11	30.618	30.613	46	29	49	48½	S.W.	.00	Fine; overcast; slight frost at night.
Tues. . . 12	30.537	30.320	43	25	48	48	N.E.	.00	Cloudy; fine; overcast; slight frost.
Wed. . . 13	30.464	30.425	43	23	48	47½	N.E.	.00	Very clear and fine; quite cloudless; slight frost.
Thurs. . 14	30.427	30.392	49	23	47	46½	N.	.00	Fine; clear and fine; slight frost.
Fri. . . 15	30.744	30.598	45	29	45	46½	N.	.00	Partially overcast and fine; clear and very fine; starlight.
Sat. . . 16	30.685	30.589	42	36	44	45½	W.	.00	Overcast throughout, with little variation of temperature.
Mean . .	30.577	30.493	45.43	29.28	47.14	47.28	....	0.00	

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### DARK COCHIN-CHINAS AT BIRMINGHAM.

In your report of the Birmingham Show, regarding the Grouse and Partridge Cochins, you say, "The old difficulty of finding cocks with thoroughly black breasts still exists." This I deny, as there was not a brown feather in the breast of any of the three young birds that I exhibited, and I defy your reporter to show one, on pain of my forfeiting a sovereign for every brown feather. I have no hesitation in saying, that they who so reported of my birds were as blind as I attributed the judges to be who awarded the prizes.

Every word your correspondent "P." states concerning "the Birmingham awards," you may hear endorsed on all sides.

The Poultry Club is quite prepared to carry out your correspondent's suggestions. The proposed Show at Rochdale at the end of January is merely preliminary to one to be held in the autumn of next year if necessary. The present guarantors will only be too happy to add to their number your correspondent "P."—EDWD. TUDMAN, *Ash Grove, Whitechurch, Salop.*

### JUDGES AND THEIR JUDGES.

THE office of judge is not an enviable one, whether the duty consist in sentencing men to penal servitude, or to hard labour, or in awarding prizes to poultry. I have, however, been struck by one thing common to these last, and to many others. The fault-finders are energetic, whilst those who approve are supine. While ten or twelve, or, it may be, twenty dissatisfied exhibitors



are indefatigable in spreading their discontent, the numbers who are satisfied trust to time and to others to espouse the cause of the judges who made the awards that are favourable to them. The old proverb says, "Let the losers laugh, the winners are sure to do so."

The truth is, the prizes at the Birmingham Show are so important to all, and such a source of profit to many, that they cannot bear to lose. The four or five discontented in a large class congregate together and loudly make their complaints. Too often, like Mr. Primrose, they make up in clamour what they lack in argument. I have no doubt they are very sincere in their complaints, and, doubtless, believe they are hardly dealt by; but they would do well to recollect that few men are so happily constituted, or so capable of cool judgment in their own matters, as to justify them in impugning the awards of experienced and honourable men. Fewer still are able to overcome evil passions and prejudices, and to act dispassionately, when smarting under disappointment. Many, I hope, when they cool down, are sorry for the heat they have shown, and the unkind things they have said. I attend few shows, but I have often remarked when I have been at one, that the complaints I heard all day long, proceeded always from the same people.

It is wonderful what even one pertinacious man can do by perseveringly harping on one string. Nobody believes Solomon Eagle was a prophet, or that he knew more than others about the plague, yet by constantly running about the streets and screaming his denunciations, he became associated with the visitation; and the same may be said of those who run about a poultry show grumbling.

It is said in eastern tales, that sometimes an unpopular Pasha is beheaded as soon as he is in disgrace; at others he is more gracefully disposed of with a cup of coffee. So the malcontents vary their attacks, while some deal in innuendoes, not always delicate ones; others disguise their charge by saying there were mistakes, but the judges, poor men, had too much to do.

I am no exhibitor myself, and try to stand aloof from all influence. I have nothing to say about the Poultry Club, save that many of its members are very honourable men; but I can hardly see what they propose to accomplish, or how they mean to do it, when they talk of having no confidence in any but their own judges, and in blaming the conduct of every show that is not subservient to their mandates. Some people venture to doubt whether if they succeeded in substituting themselves for all other authority, it would be any improvement. Nothing they have yet done has been calculated to suggest improvement or to inspire confidence. Their denunciation of Birmingham is in bad taste. Poultry owes much to the men who have carried that show from its dark and trying days to its prosperity. Exhibitors cannot well do without Birmingham. Those who exhibit in the present day for the love of exhibition are but few compared to those who show for profit. These latter cannot afford to do without Bingley Hall. There is not only the fame that attaches to the prizes taken there, and the future profit, but there is also the actual sale during the show, that distributes hundreds of pounds taken by the sale of pens.—**BRABRA.**

## FOREST FOWLS AND THE FLATS OF ESSEX.

THERE is a popular belief that in the land of the East Saxons the roads are raised between dykes, and that on Essex highways posts and rails are placed to guide the unwary during floods. There is no less an authority than the *Times* for this statement, and although the facts are to the contrary, yet as the *Times* holds the opinion, so much the worse for the facts. It must be admitted, however, that in the county of Essex are many flats, and that the neighbourhood of Chelmsford forms no exception to the rule.

At the recent poultry show held in the above county town, a pen of so-called "Forest Fowls" was exhibited, which, putting aside the first prize, a fine pen of La Flèche and a pen of Silver Polands, gained the second prize in the Any variety class, as the best of a mongrel lot. Your report described them as dwarfed Black Hamburgs, an opinion shared by others with your reporter. In your answers to correspondents on November 28th, you tell "ORNIS" you do not doubt that he purchased his so-called Forest Fowls from the party he names, and that they may have come from Exmoor, but that they may also have been Hamburgs originally, and that you are sure there is no original breed there. These statements in your paper called

from Mr. H. Leworthy another, that Mr. Warner purchased from him birds, which he, Mr. Leworthy, calls Forest Fowls, for the purpose of rearing Pheasants; that he, Mr. Leworthy, keeps blue birds of the kind for the hackle feathers, which he uses for fishing-purposes; that there is not any strain of the Hamburg breed in them, and that the original stock is taken from the borders of the forest of Exmoor.

It is evident that some one is wrong. The experience of your reporter, and your own statement, deny the existence of Forest Fowls. Opposed to these are Mr. Leworthy's statements. As you are not bound to prove a negative, it rests with him to bring forward satisfactory evidence that these birds are what he professes them to be: his own unsupported statement, however trustworthily, is not enough for proof. If a hitherto unnoticed and original breed of fowls has come to general notice, let us know all about them; if a new and useful cross has become accomplished let us adopt them, but not under a false description. Neither common sense nor common honesty will be served except by a straightforward statement of evidence. It is not, as with Brahmas, a matter of distant history difficult of proof. The proof can be obtained in our own country and at this time. It is the duty of Mr. Leworthy in putting forward birds which he calls Forest Fowls, to prove the truth of his statements before a mongrel race, may be of Hamburg or Andalusian blood, or of both, increase and multiply.

Without expressing an opinion either one way or the other as to the origin of the Brahma, I will attest its usefulness and admire the advocacy of that Alpha and Omega, &c., of initials "Y. B. A. Z." Nothing of the kind is needed here. A simple, well-substantiated, honest statement will set the matter at rest, and this, doubtless, Mr. Leworthy is prepared to give. At all events, until this is done it is quite certain that Forest Fowls will not thrive amongst Essex flats.—**ONE OF THE CALVES.**

[Since we received the above we have had the following sent to us, which seems to settle the question:—

"I see by the Journal, Mr. H. Leworthy takes exception to the paragraph in the report of the Chelmsford Show, that 'some dwarfed Black Hamburgs were shown as' Forest Fowls six months old. The cock 'had, without doubt, enjoyed existence for very many years past, and possibly months was simply a misprint for years.' This correspondent now states, your reporter has given them a new name, 'dwarf Black Hamburgs.' I had no desire to express myself ambiguously, and regret that by saying they were 'dwarfed' Black Hamburgs, the misconception should have arisen, that I considered these fowls of any 'pure' breed, of either Hamburgs or any other variety, for I well knew to the contrary, and am equally aware with Mr. Leworthy, that these so-called 'Forest Fowls,' are by no means pure, but throw chickens of great irregularity of colour, the 'blue'-feathered ones being, as he says, in considerable demand for the artificial-fly manufacturer; but, on the contrary, to that purpose the Black ones, as shown at Chelmsford, are altogether inapplicable. The writer himself exhibited a very well matched pen of the 'Blues' (that is slate-coloured) ones, bred from Black ones, at one of the earliest Birmingham shows, where they were unnoticed altogether by the Judges.

"These fowls are commonly to be met with in the Welshpool, Oswestry, and Ruabon markets, but are not favourites among general dealers, simply because of their 'dwarfed' (stunted and degenerated) proportions, consequently except the 'blue'-feathered ones among fishermen, such fowls mostly prove a heavy sale. I at once admit, like all the smaller fowls, they are excellent to rear Pheasants and Partridges, and sit most assiduously, as nearly all crosses with Hamburgs will do, though with 'pure' Hamburgs, it is well-known incubation occurs only as an extremely rare exception.

"The 'Forest Fowls' of your correspondent have existed for a long series of years, in the localities above named, being more especially retained for their suitability to the Game breeder, but have never settled down to regular traits of character, or been looked upon simply on account of their long standing, as a 'pure' breed, for they continually 'sport' in both colour, combs, and markings.—**YOUR REPORTER.**"

## PIGEON JUDGING AT BIRMINGHAM.

I THINK it high time that some alteration should be made as regards the awarding of prizes at our poultry shows, some rules laid down for Judges to act up to in order that justice may be done to exhibitors, and judges themselves be freed



from the unpleasantness attending their duties, by repeated cause being given for complaint as to the manner in which the prizes are awarded. At the late Birmingham Show I exhibited a pair of Blue Dragons, admitted by really competent judges to be the best pair in the Show. They were honoured with a very high commendation, whereas the pair that the first prize was awarded to were both white-rumped, a defect, beyond doubt, quite sufficient to exclude them from taking a prize. The pair that the second prize was awarded to were, perhaps, rather better, only one of them being white-rumped.

Now, I think, I have just cause for complaint that the prize in this variety was not awarded to me; but, at the same time, I complain that the first prize, awarded to me for Archangels, was equally unjust, inasmuch as one of them is gravel-eyed, and the other pearl-eyed; quite sufficient to my mind to exclude them from prize-taking.

I fear that the great dissatisfaction caused by such gross blunders will very soon cause these useful exhibitions to be numbered among the things that have been.—JOHN PERCIVALL.

## DARLINGTON EXHIBITION OF POULTRY AND PIGEONS.

THIS thirteenth annual Exhibition of the Darlington Society took place on the 13th, 14th, and 15th inst., and proved one of the most successful exhibitions yet held in this locality. It was at first apprehended, as cattle were not exhibited this year, as was the case hitherto, that a most serious falling off would take place in the number of visitors; but we are most happy to state that the attendance of poultry amateurs sustained no diminution, and the quality of the poultry exhibited was quite equal to that of former years. The Committee were equally unsparing of personal trouble and expense as heretofore, and fires were placed in suitable positions so as to warm the whole area of the spacious new covered market, than which it is rare to find a more suitable building for such an exhibition. This forethought on the part of the managers at Darlington is worthy of especial mention, as it was evident that many really excellent pens of fowls, previously broken down by too-quickly-repeated exhibition, without the opportunity of even a few days' intervening rest, would have suffered most severely had their requirements not been properly attended to. As it was, we were sorry to observe that a great number of pens were suffering severely from influenza at the time of their admission, and the restoratives of combined warmth and stimulating diet were evidently not wasted, for numbers of such pens would leave Darlington in far better condition and general health than when received.

The Darlington Show was rich in Grey *Dorkings*, Viscountess Holmesdale exhibiting a large number of pens of this breed, that would greatly increase the interest of any poultry meeting. We do not recollect her ladyship ever having exhibited a more praiseworthy collection. The first-prize pen of rosy-combed ones were extraordinarily good, and we must name the pen containing a pair of Dorking hens such as are only met with at very considerable intervals. All three of the principal Grey Dorking prizes were, therefore, obtained by Lady Holmesdale; but it must not be supposed that this triumph was gained without a vigorous competition, for pen after pen of most commendable birds were to be found in these classes. Black *Spanish* were very good, but evidently a considerable proportion of these pens were suffering from over-exhibition. In *Cochins* there was a very close competition, all the most noted breeders evidently being willing to try their strength at Darlington. Captain Heaton won the first prize in adults with a most magnificent pen, composed of two especially perfect hens, mated with the first-prize single cock at Birmingham. They are individually, perhaps, as good specimens as could be desired, but match indifferently, so much so as to cause the silver cup for the best pen of *Cochins* (without reference to age) to be awarded to chickens. The chicken class was uniformly excellent, and here Mr. Jennison of Manchester showed two very superior pens. Mr. Tomlinson, of Birmingham, exhibited in this class a most marvellous young cockerel, that was almost universally admired; but one of his pullets seemed a most unfitting companion. *Brahmas* mustered well, and seemed to excite considerable interest, as they have proved extraordinary winter egg-producers, even so far north as Darlington. *Hamburghs* were in all respects superior to the usual run, the Golden-spangled and Silver-spangled especially so; it is really wonderful how well the cup birds wear year after year without any apparent deterioration, for it is by no means common for very old hens to moult out for many consecutive years still true to feather. In *Game* fowls Mr. Fletcher of Stoneclough, near Manchester, stood pre-eminent amidst a whole host of powerful competitors; most of the birds were shown throughout the classes in excellent condition. The first-prize Black Red hen belonging to that gentleman being as near perfection as could be hoped for, though a pullet, as all ages were equally admissible. This bird ran with the first-prize single *Game* cock very closely for the extra silver cup given for the best *Game* fowl regardless of sex. By referring to the appended prize list it will be seen that Mr. Fletcher succeeded in taking two of the Society's silver cups exclusively with *Game* fowls. In *Sabrights* only a second prize was awarded, not on account, as would be imagined, of any paucity of

merit, but in accordance with the regulations of the Society's rules, which distinctly state that unless there are three entries only a second prize shall be awarded. The Arbitrators, to show their opinions, "highly commended" the other pen.

We do not ourselves at all advocate this arrangement as to deficient entries, although to award premiums when there is so little public support may be urged as bearing too heavily on the general funds; our impression, on the contrary, being, that if undoubtedly first-rate specimens are under consideration the want of competition should not militate against the success of those owners who have already incurred all the expenses of exhibition, and who cannot, we think, be fairly held responsible for the paucity of entries, which even had they been numerous would most probably not have at all affected their success. In this particular instance both pens were unusually good.

In *Game Bantams* the entries were very heavy, but the condition of the greater portion was not worthy of praise. Mr. Crossland, however, showed some excellent birds, as did Mr. Fletcher. Some of the *Game Bantams* were evidently still suffering from recent dubbing, it being well known that Bantams recover from this operation far less speedily than the more vigorous *Game* fowls. Some very good White and also Black Bantams were exhibited, the first-prize pen of Black ones at Birmingham being altogether *disqualified*, although so recently the winners of the amateurs' additional prize of £4, as well as the liberal one given by the Birmingham Council. Whilst this pen of Black Bantams was at Birmingham the objection was obvious not only to the careful, but on the contrary even casual observer, one of the hens being absolutely sprinkled with white on the saddle, the side coverts of the tail, and under the breast also. Some few of such spots were actually nearly equal in size to a silver threepenny-piece, constituting an entirely new feature in a Birmingham first-prize Black Bantam. The overtaxing of the physical powers of the Judges at Birmingham affords at once a very easy solution of the causes involving such errors. These gentlemen during the now brief wintry days are obliged to judge either long after nightfall, or, to avoid this fatal objection, they must rush onwards with their most responsible duties under a kind of follow-the-leader fashion; consequently such mistakes are certain to follow. It is to this compulsory pressure to "get done," that may fairly be attributed the greater portion of the loud complaints almost universally excited as to the Birmingham decisions rather than to the want of desire to do justice on the part of the Arbitrators themselves. The fact as to Birmingham is simply this, that there is no time to entertain a second opinion; and even the simple expression of such diversity, if courteously urged, proves only the direct herald of abrupt and offensive displeasure, the war-ery being to "get done."

In the class for Any variety not before mentioned, *Patmigan* and *La Flèche* fowls, both exceedingly good pens, were the winners.

In *Geese* Mrs. Seamous, of Aylesbury, stood highest with birds of great merit, and also with *Aylesbury Ducks*. This lady's heaviest pen of Ducks, however, were passed over from the fact of being so entirely overfed that they had nearly lost the power of locomotion, and their utter inutility as brood stock was palpable. The *Ronen* class of Ducks was excellent, as was also the *Variety Duck* class, *Carolinas* and *Grey Calls* being here the prize-winners.

The only attempt at deception we noticed throughout the Show was exhibiting in the *Hamburgh* classes pullets for old hens, and *vice versa*, to the loss of several prizes by the parties attempting the imposition.

The *Pigeons* were evidently good, but time was not available to make a close inspection after the opening of the Show, which took place early in the afternoon. As the weather proved most favourable the Exhibition was well attended.

**SPANISH (Black).**—First and Cup, H. Beldon, Bingley. Second, Viscountess Holmesdale, Linton Park. **Staplehurst, Kent.** Highly Commended, A. Heath, Calne, Wilts. **Chickens.**—First, E. Brown, Sheffield. Second, Master A. Ridpath, Edinburgh. Highly Commended, Messrs. Bowman & Fearon, Whitehaven; A. Heath; J. H. Wilson, St. Bees.

**DORKINGS (Coloured).**—First and Cup, Viscountess Holmesdale, Linton Park. Second, H. Lingwood, Barking, Needham Market, Suffolk. Highly Commended, G. R. Smith, Scarborough; J. White, Warlaby, Northallerton. **Chickens.**—First, Viscountess Holmesdale, Linton Park. Second, M. Hedley, Redhill, Surrey. Highly Commended, J. White; M. Hunter, Green Hammerton Hall, York; T. E. Kell, Wetherby; Mrs. Dale, Scarborough; J. Bell, Thornton-le-Moor, Northallerton. Commended, C. Pease, Southend, Darlington; J. Graham, Witton-le-Wear.

**DORKING HENS (Any variety).**—First, Viscountess Holmesdale, Linton Park. Second, J. Gunson, Sandwith, Whitehaven.

**DORKINGS (White).**—First and Cup, H. Lingwood, Barking, Needham Market. Second, J. Robinson, Vale House, Garstang. **Chickens.**—First, H. Lingwood. Second, J. Robinson.

**COCHIN-CHINA (Cinnamon and Buff).**—First, Capt. Heaton, Lower Broughton, Manchester. Second, H. Bates, Yardley, Birmingham. Highly Commended, H. Tomlinson, Balsall Heath, Birmingham. **Chickens.**—First, Cup, and Second, C. Jennison, Belle Vue, Manchester. Highly Commended, H. Tomlinson; Capt. H. Heaton; Miss Aglionby, Grasmere, Westmoreland. Commended, J. Nelson, Heaton Mersey, Manchester.

**COCHIN-CHINA (Any other variety).**—First, Capt. H. Heaton, Lower Broughton. Second, H. Bates, Yardley. Highly Commended, W. Dawson, Hopton Mirfield; Rev. W. H. Fell, Statmine, Poulton-le-Fylde, Lancashire. **Chickens.**—First, Capt. H. Heaton. Second, J. W. Marshall.

**COCHIN-CHINA HENS (Any age or variety).**—First, H. Tomlinson, Birmingham. Second, Capt. H. Heaton, Lower Broughton. Highly Commended, J. Bell, Thirsk; Capt. H. Heaton; C. Jennison, Manchester; A. Perkins, Darlington. Commended, C. Pease.

**BRAHMA POOTRAS (Any variety).**—First, R. W. Boyle, Wicklow, Ireland. Second, H. Lacy, Hebden Bridge. Commended, Rev. W. H. Fell, Stat-



mine. *Chickens*.—First, G. H. Roberts, Penwortham, Preston. Second, R. W. Boyle, Ireland. Highly Commended, Mrs. M. Seamons, Hartwell, Aylesbury; H. Lacy.

*GAME* (Black-breasted and other Reds).—First and Cup, J. Fletcher, Stoneclough, Manchester. Second, M. W. Stobart, Middleton-one-Row, Darlington. Commended, H. M. Julian, Hull. *Chickens*.—First, T. Bottomley, Shelf, Halifax. Second, W. J. Pope, Biggleswade, Beds.

*GAME* (Brown-breasted Reds).—*Chickens*.—First, J. Fletcher, Stoneclough. Second, M. W. Stobart, Middleton-one-Row. Commended, W. J. Cope, Barnsley; W. Whitwell, Stockton-on-Tees.

*GAME* (Any other variety).—First, T. J. Charlton, Manningham. Second, J. Fletcher, Stoneclough. Commended, M. W. Stobart, Middleton-one-Row. *Chickens*.—First, J. Fletcher. Second, T. J. Charlton, Manningham. Commended, W. Gamon, Thornton-le-Moor.

*SINGLE GAME HEN* (Any variety).—First, J. Fletcher, Stoneclough. Second, E. Aykroyd, Bradford. Highly Commended, J. Firth, Halifax.

*HAMBURGS* (Gold and Silver-pencilled).—First, J. Robinson, Vale House. Second, A. R. Wood, Burnside, Kendal. Commended, H. Beldon, Bingley.

*HAMBURGS* (Gold and Silver-spangled).—First and Cup, A. R. Wood, Burnside. Second, H. Beldon, Bingley. Highly Commended, W. A. Hyde, Taunton Hall, Ashton-under-Lyne; J. Roe, Hadfield, near Manchester; J. Robinson.

*HAMBURGS* (Golden-pencilled).—*Chickens*.—First, J. Robinson, Vale House. Second, H. Beldon, Bingley. Commended, Viscountess Holmesdale, Linton Park; W. H. Dyson, Bradford.

*HAMBURGS* (Golden-spangled).—*Chickens*.—First, J. Roe, Hadfield. Second, W. A. Hyde, Ashton-under-Lyne. Highly Commended, J. Roe. Commended, J. Walker, Haya Park, Knaresborough.

*HAMBURGS* (Silver-pencilled).—*Chickens*.—First, H. Beldon, Bingley. J. Walker, Knaresborough.

*HAMBURGS* (Silver-spangled).—*Chickens*.—First, H. Beldon, Bingley. Second, A. R. Wood, Burnside.

*POLANDS* (Any variety).—First and Second, H. Beldon, Bingley. Highly Commended, H. Beldon.

*BANTAMS* (Gold or Silver-laced).—Second, T. Davies, Newport. Highly Commended, G. Manning, Springfield.

*BANTAMS* (White or Black).—First, E. Hutton, Pudsey, Leeds. Second, Messrs. J. & A. Briggs, Rawden.

*GAME BANTAMS* (Any variety).—First, Cup, and Second, J. Crossland, jun., Wakefield. Third, J. Fletcher, Stoneclough, Manchester. Commended, G. Maples, jun., Wavertree, Liverpool; D. Parsons, Cuerdon, Preston; Miss Aglionby.

*DUCKS* (Aylesbury).—Prize, Mrs. M. Seamons, Hartwell.

*DUCKS* (Rouen).—First and Cup, A. Woods, Sefton. Second, J. Robinson. Highly Commended, J. Nelson, Heaton Mersey.

*DUCKS* (Any other variety).—First, J. Jennison, Manchester. Second, D. Parsons, Preston. Commended, E. Hutton, Pudsey.

*GEESSE* (Any variety).—First and Second, Mrs. M. Seamons, Hartwell. Highly Commended, W. A. Wooller, Darlington. Commended, J. Young, Seaton Carew.

*TURKEYS* (Any variety).—First, R. J. Wood, Chorley. Second, Mrs. A. Goy, Eaton, Grantham. Highly Commended, J. Smith, Freeder Hills; Mrs. Dale, Scarborough; C. Pease, Southend.

*ANY OTHER DISTINCT BREED*.—First, R. Loft, Woodmansey, Beverley (La Fliche). Second, E. Pigeon, Lymington, Exeter. Highly Commended, H. Beldon, Bingley (Black Hamburgs).

*SELLING CLASS*.—First, G. Yeats, Studley, Ripon (Grey Dorkings). Second, Mrs. Marshall, Darlington (White Cochins). Third, T. Clemenson, Darlington (Brown Red Game). Highly Commended, Capt. H. Heaton, Lower Broughton (Partridge Cochins). Commended, J. Young, Seaton-Carew (Golden-pencilled Hamburg); T. Oliver, Darlington (Golden-pencilled Hamburg); H. Beldon, Bingley (Black Spanish); T. Todd, Darlington (Partridge Cochins).

#### SINGLE COCKS.

*SPANISH* (Black).—First, E. Brown, Sheffield. Second, Master A. Riddpath, Edinburgh. Highly Commended, I. Shorttoss, Newcastle-on-Tyne.

*DORKING* (Any variety).—First, Mrs. Dale, Scarborough. Second, Rev. J. F. Newton, Kirby. Highly Commended, Miss Milne, Otterburn.

*COCHIN-CHINA* (Any variety).—First, Capt. H. Heaton, Lower Broughton. Second, W. A. G. James, Kirby Lonsdale. Highly Commended, Capt. H. Heaton; Rev. W. H. Fell, Statuine; J. W. Marshall, Darlington. Commended, J. Nelson, Heaton Mersey.

*BRAMA POOTRA* (Any variety).—First, R. W. Boyle, Ireland. Second, H. Lacy.

*GAME* (Any variety).—First and Cup, J. H. Wilson, St. Ees.\* Second, J. Fletcher, Stoneclough. *Cockerel*.—First, T. J. Charlton, Manningham. Second, R. Payne, Burnley. Highly Commended, J. Fletcher, Stoneclough. Commended, T. Burgess, Barleydam.

*BANTAM* (Any variety).—First, W. T. Robinson, Richmond. Second, W. Hodgson, Darlington. Third, T. Boucher, Birmingham. Commended, J. W. Morris, Rochdale.

#### PIGEONS.

*CARRIERS* (Any colour).—*Cock*.—First, G. H. Roberts, Penwortham. Second, W. Massey, Fulford, York. Highly Commended, F. Else, Bayswater, London; W. Massey. *Hen*.—First, T. CoKey, Sheffield. Second, F. Else. Highly Commended, G. H. Roberts.

*POWTER* (Any colour).—*Cock*.—First, J. R. Robinson, Sunderland. Second, W. R. Rose, Cransley Hall. Highly Commended, E. Brown, Sheffield. *Hen*.—First, J. R. Robinson. Second, W. R. Rose. Highly Commended, A. Heath, Calne.

*ALMOND TUMBLERS*.—First, F. Else. Second, J. R. Robinson. Highly Commended, J. Percival, Clent Villa, Birmingham.

*TUMBLERS* (Any other variety).—First, J. Percival, London. Second, H. Yardley, Market Hall, Birmingham. Highly Commended, G. Wostenholm, Sheffield.

*FANTAILS*.—First, J. R. Robinson. Second, F. Else.

*TRUMPETERS*.—First and Cup, M. Hedley, Redhill, Surrey. Second, J. R. Robinson.

*BARBS*.—First, J. R. Robinson. Second, W. Massey. Highly Commended, M. Hedley; G. H. Roberts.

*JACOBINS*.—First, F. Else. Second, H. Yardley. Commended, H. Beldon

*TREBITS*.—First, E. E. M. Roys, Rochdale. Second, J. J. Wilson, Darlington. Highly Commended, H. Yardley.

*OWLS*.—First, M. Hedley. Second, F. Else. Highly Commended, H. Yardley.

*ANY OTHER NEW OR DISTINCT VARIETY*.—First, H. Yardley. Second, H. Beldon. Highly Commended, J. Parker, Oakworth Hall, Keighley; H. Yardley; J. Percival, London.

A Silver Cup, value £5, offered by C. Pease, Esq., for the most successful exhibitor in the Poultry Classes, was awarded to J. Fletcher, of Stoneclough, but is claimed by Mr. Beldon, and not yet decided.

Mr. Hewitt, of Birmingham, and Mr. Teebay, of Preston, judged the general classes of poultry, assisted in the Game classes only by Mr. Smith, of Halifax. Mr. Smith also arbitrated for the Pigeons.

#### LEEDS SMITHFIELD EXHIBITION.

THE Poultry Show in connection with the Cattle Show was held in the Cattle Market, Leeds, on the 12th, 13th, 14th, and 15th inst. There was a numerous entry, both of Poultry and Pigeons, and this portion of the exhibition formed, as usual, one of the most attractive features for the generality of the visitors.

The Society's Silver Cup for the Best Pen of Poultry, E. Aykroyd, Gillingstone Road, Bradford.

*SINGLE GAME COCKS* (Any description).—First, C. W. Brierley, Middleton, Manchester. Second, E. Aykroyd, Gillingstone Road, Bradford. Third, H. C. Mason, Drighlington.

*GAME* (Black-breasted and other Red).—First, E. Aykroyd. Second, Sir St. G. Gore, Bart., Hopton Hall, Derbyshire. Third, W. Boyes, Beverley. *Chickens*.—First, E. Aykroyd. Second, Sir St. G. Gore, Bart. Third, G. Hopkieson.

*GAME* (White and Piles).—First, R. Butcher, Cresswell, Chesterfield. Second, J. Sunderland, Coley Hall, Halifax. Third, M. H. Hobart, Middleton One Row, Darlington. *Chickens*.—First, R. Butcher. Second, R. Whittam, Mount Pleasant, near Colne. Third, J. Snaderland.

*ANY OTHER VARIETY*.—First, Sir St. G. Gore, Bart. Second, E. Aykroyd, Third, J. Harrison, Dale House, Wakefield. *Chickens*.—First, J. Fell, Adwalton. Second, E. Aykroyd. Third, Sir St. G. Gore, Bart.

*DORKINGS* (Any variety).—First, Sir St. G. Gore, Bart. Second, H. Beldon, Gaitstock, Bingley. Third, Lady Hawke, Womersley Park, Pontefract. *Chickens*.—First, Messrs. Brown & Greenwood, Harrogate. Second, Sir St. G. Gore, Bart. Third, T. E. Kell, Wetherby.

*SPANISH*.—First, H. Beldon. Second, J. Newton, Silsden. Third, Messrs. Thresh & Greenwood, Manchester Road, Bradford. *Chickens*.—First, J. Marchant, Hanson Lane, Halifax. Second, Messrs. Thresh & Greenwood. Third, N. Cook, Chawmont, Manchester.

*COCHIN-CHINA* (Cinnamon and Buff).—First, H. Tomlinson, Balsall Heath Road. Second, E. Smith, Middleton, Manchester. Third, T. H. Barker, Hovingham, York. *Chickens*.—First, C. Jenkinson, Belle-Vue, Manchester. Second, J. Nelson, Heaton Mersey, Manchester. Third, T. H. Barker.

*COCHIN-CHINA* (Any other variety).—First and Second, R. J. Wood, Princess Hall, Chorley Junction. Third, E. Smith. *Chickens*.—First, R. J. Wood. Second, W. Dawson, Hopton, Miffield. Third, J. Harrison, Dale House, Wakefield.

*HAMBURGH* (Gold-pencilled).—First, W. H. Dyson, Soap Farm, Horton, Bradford. Second, Sir St. G. Gore, Bart. Third, H. Beldon. *Chickens*.—First, H. Beldon. Second, Sir St. G. Gore, Bart. Third, S. Smith, Northowram, Halifax.

*HAMBURGH* (Silver-pencilled).—First, Sir St. G. Gore, Bart. Second, J. Preston, Allerton, Bradford. Third, W. Lawrence, Eaglescliffe. *Chickens*.—First, Sir St. G. Gore, Bart. Second, H. Beldon. Third, H. Pickles.

*HAMBURGH* (Gold-spangled).—First, Sir St. G. Gore, Bart. Second, H. Beldon. Third, J. Newton. *Chickens*.—First, G. R. Ashton, Mottram, Cheshire. Second, H. Beldon. Third, J. Preston.

*HAMBURGH* (Silver-spangled).—First, J. Fielding, Newchurch Manchester. Second, J. Smalley, Water Fall Villa, Blackburn. Third, J. Jackson, Bury, Lancashire. *Chickens*.—First, Sir St. G. Gore, Bart. Second, J. Jackson. Third, H. Beldon.

*HAMBURGH* (Black).—First, H. Beldon. Second, R. Tate, Leeds. Third, J. Birbeck, Burmanstofts, Leeds. *Chickens*.—First, J. Jackson. Second, G. Bennett, Staningley. Third, W. Worsley, Middleton, Manchester.

*POLANDS* (Any variety).—First and Second, H. Beldon. Third, H. Carter, Uppertong, Holmfirth. *Chickens*.—First, Mrs. Kell, Wetherby. Second, H. Beldon. Third, E. Hepworth, Norridge, Holmfirth.

*MALAYS*.—Prize, G. Hustler, Stilling Fleet, York. *Chickens*.—Prize, T. Jolly, Warblay, Northallerton.

*FARMYARD CROSS* (Or any other variety).—W. H. Wheeler, The Cottage, Carlton, Nottingham. Second, R. Loft, Woodmansey, Beverley. Third, W. A. G. James, Kirby Lonsdale.

*BANTAMS* (Black).—First, S. Schofield, Heckmondwike, Second, R. Gledhill, Bradford. Third, J. A. Briggs, Slack Beck Farm, Rawdon.

*BANTAMS* (White).—First, Sir St. G. Gore, Bart. Second, J. A. Briggs. Third, H. E. Emberline, Leicester.

*BANTAMS* (Game).—First, R. Tate, Leeds. Second, J. Crossland, jun., Wakefield. Third, W. Taylor, Albert House, Hunslet.

*BANTAMS* (Any other variety).—First, W. J. Cope, Barnsley. Second, E. Shaw, Plas Willmott, Oswestry. Third, C. W. Brierley, Middleton, Manchester.

*GUINEA FOWL*.—First, O. A. Young, Driffield. Second, Lady Hawke. Third, O. A. Young.

*TURKEYS*.—First, O. A. Young. Second, E. Leech, Greave House, Rochdale. Third, J. Brown, Sheepscar, Leeds.

*GEESSE*.—First, O. A. Young. Second, H. Beldon. Third, B. Baxter, Elsiehall Hall, Skipton.

*DUCKS* (Aylesbury).—First, E. Leech. Second, Sir St. G. Gore, Bart. Third, H. Beldon.

*DUCKS* (Rouen).—First and Second, J. Nelson, Heaton Mersey, Manchester. Third, H. Beldon.

*DUCKS* (Any other variety).—First, E. Hutton, Pudsey. Second, H. Beldon. Third, J. R. Jessop, Hull.

*SELLING CLASS*.—First, H. Beldon. Second, W. Massey, Fulford, York. Third, E. Smith.

\* This has been withheld, it being discovered that one of the sickle feathers was spliced.



## PIGEONS.

The Club's Silver Cup, for the best Pen of Pigeons in the Show ground, M. Ramsdon, Rose Cottage, Arncliffe.

**CARRIERS.**—First, A. F. Leite, Ryland House, Manchester. Second, T. Colley, Sheffield.

**POWTERS.**—First and Second, A. P. Leite.

**ALMOND TUMBLERS.**—First and Second, A. P. Leite.

**TUMBLERS** (Any other variety).—First and Second, A. P. Leite.

**OWLS.**—First, H. Ramsdon, Rose Cottage, Arncliffe. Second, A. P. Leite.

**FANTAILS.**—First, F. Else, Bayswater, London. Second, J. Thackray, Petergate, York.

**BARBS.**—First, A. P. Leite. Second, H. Ramsdon.

**TERRITS.**—First, H. Yardley, Market Hall, Birmingham. Second, R. Wilson, Thirsk.

**JACOBIANS.**—First, E. Horner, Harewood. Second, R. Dodge, Sheffield.

**TUMPETERS.**—First, F. Else. Second, F. Key, Beverley.

**NUNS.**—First, P. Leite. Second, F. Key.

**RUNTS.**—First, A. P. Leite. Second, S. Robson, Brotherton.

**DRAGONS.**—First, W. Massey, Fulford, York. Second, H. Yardley.

**ANTWERPS.**—First and Second, H. Yardley.

**MACPIES.**—First, J. Thackray. Second, J. R. Jessop, Hull.

**SWALLOWS.**—First, E. E. M. Roys, Greenhill, Rochdale. Second, R. Yardley.

**ANY OTHER VARIETY.**—First, A. P. Leite. Second, R. Dore, Sheffield.

**RATS.**—*Longest-cord.*—First and Silver Medal, T. H. Ridpath, Rusholme, Manchester. Second, E. E. M. Roys, Greenhill, Rochdale.

*Yellow and White.*—First, T. H. Ridpath. Second, M. Millington, Ilworth Moor, York.

*Black and White.*—First, T. H. Ridpath. Second, A. Fifth, Cheshire.

*Self-coloured.*—First, T. H. Ridpath. Second, G. F. Jones, York.

**JUDGES:**—For Poultry, R. Teebay, Esq., Fulwood; A. Sutherland, Esq., Burnley; and E. Bond, Esq., Leeds. For Pigeons and Rabbits, M. Headley, Esq., Claremont Green, Redhill, Surrey.

## DUBLIN POULTRY SHOW.

This was held on Wednesday and Thursday, the 13th and 14th inst., when nearly 120 pens were shown. The following is the prize list:—

**DORKINGS** (Silver-Grey).—First, Mrs. Warburton, Kill, Kildare. Second, R. Williams, Glaslin, Clontarf. **Chickens.**—First, F. W. Zurhorst, Belleville, Donnybrook, Dublin. Second, S. Mowbray, Killeany, Mountath.

**DORKINGS** (Coloured).—Prize, R. P. Williams, Glaslin. **Chickens.**—Prize, F. W. Zurhorst.

**SPANISH.**—First and Second, Miss De Courcy Devar, Rose Hill, Blackrock, Co. Dublin. **Chickens.**—First, Miss De Courcy Devar. Second, D. C. Heron, Dublin.

**COCHIN-CHINA.**—First and Second, F. W. Zurhorst. **Chickens.**—First and Second, F. W. Zurhorst.

**GAME.**—First and Second, C. H. Peacock, Carrig-na-Greine, Dalkey. **Chickens.**—First and Second, C. H. Peacock, Carrig-na-Greine.

**HAMBURGH** (Pencilled).—Prize, R. W. Boyle, Galtrim House, Bray.

**HAMBURGH** (Spangled).—First, R. P. Williams. Second, S. Mowbray.

**POLANDS.**—Prize, Miss De Courcy Devar.

**CREVE CŒUR.**—Prize, F. W. Zurhorst.

**SINGLE COCKS.**

**DORKING.**—First, F. W. Zurhorst. Second, W. Magrath, Blessington.

**SPANISH.**—First, Miss De Courcy Devar. Second, R. P. Williams.

**COCHIN-CHINA.**—First, Miss A. Alexander, Acton House, Poyntzpass. Second, F. W. Zurhorst.

**BRAHMA POOTRA.**—First, R. W. Boyle. Second, Mrs. Warburton.

**TURKEYS.**—First, F. W. Zurhorst. Small medal, W. C. Hamilton, Ballitore House, Kildare.

**Poult.**—First and Second, A. Strahan, Timolin, Ballitore. Third, F. W. Zurhorst. **Single Cock.**—First and Second, F. W. Zurhorst.

**GESE.**—First, R. W. Boyle. Second, T. Butler, Priesttown House, Co. Meath. Third, Mrs. Walsh, Kingswood, Saggard.

**DUCKS** (Rouen).—First, R. P. Williams. Second, R. W. Boyle. Bronze medal, R. P. Williams.

**DUCKS** (Aylesbury).—First, F. W. Zurhorst. Second, Mrs. Warburton. Third, R. P. Williams.

The Judges were Messrs. Stanton, Langton, and Hafield.

## WALSALL POULTRY SHOW.

WE have just received a prize schedule of an Exhibition of Poultry and Pigeons to be held in the Guildhall Assembly Rooms at Walsall, on Monday and Tuesday the 15th and 16th of January next. Its institution is hailed by exhibitors as supplying a want long felt in the district, and as the competition is open to all comers, a very heavy entry for a first show appears certain, particularly as the Committee are men of well known probity, themselves poultry fanciers, and enter on their duties determined to carry it to a successful issue by the combination of individual exertions. For an entrance fee of 5s. all the principal classes have prizes of £2, £1, and 10s. respectively, besides additional silver cups, nine in number, one of which will be gained by the lucky owner of the first prize in these divisions. The cups are presented to the Society by various lovers of poultry shows, and they will be of the value of three guineas each. The entrance for Ducks and Bantams is 3s. a-pen, in Bantams the prizes will be £1 and 10s., but to Ducks there will be three prizes—viz., 30s., 15s., and 7s. 6d. A "selling class" restricted to 30s. a-pen, for a 3s. fee, receives 30s., 15s., and 7s. 6d. also, which will produce a heavy

entry. The Pigeon classes have prizes of £1, and 10s. to each variety for which premiums are offered, the entrance fee being 2s. 6d. This Show will be continued annually; the Committee with open-handed fairness publish their names, and consequent responsibility, and we find it also stated on their prize list, that Mr. Edward Hewitt, of Birmingham, will be entrusted with the whole of the arbitrations. The entries close on December the 30th.

## UPWARD WINTER VENTILATION.

A REMEDY FOR MOULDY COMBS AND DISEASED BEES.

NOTICING frequent complaints in the Journal about damp and mouldy combs and diseased bees in wooden hives, your readers may be interested to learn, how, after an experience with such hives, on a large scale, for nearly fourteen years, I am able to keep them dry and sweet, and the bees in good health during the frequent and severe changes of our winter climate.

To obviate the objections which might otherwise be urged against my plan, I will show briefly, before describing it, the fallacy of certain opinions which are still in vogue, even with the majority of scientific apiarians.

The honey-bee is, probably, the only warm-blooded insect known to man, living in a colony state during the winter. Its animal heat is, of course, supplied by the consumption of honey, the heat-producing qualities of which are known to be very great. A single bee, or even a small number, cannot, however generously fed, retain sufficient heat to preserve life in a low temperature; but a large number, by densely clustering among their combs, are able to bid defiance to a temperature lower than the freezing point of mercury. Now, bees do not, as many suppose, thrive in such low temperatures by warming the interior air of their domiciles, on the same principle that we in cold weather keep comfortable by heating the air of our abodes; but they retain in their dense clusters sufficient animal heat, very much as we preserve a proper temperature in cold apartments, in our comfortable beds. It is well known that bees, in a state of nature, live in hollow trees, in caves and clefts in the rocks, and in other dwellings where they cannot materially change the temperature of the air which surrounds their combs, any more than they can warm the large garrets where I have known them to thrive admirably in combs constructed under the rafters, when exposed sometimes to a temperature below zero. Even in the coldest weather, a strong stock of bees well provisioned will, in such a situation, maintain sufficient heat to be healthy and comfortable, breeding in midwinter in their central combs. Let bee-keepers ponder well these undoubted facts, and they will be prepared for the assertion, that if we could by any artificial arrangement enable the bees to warm to any considerable extent the air of their hives, the consequences instead of being beneficial would be highly disastrous, for as soon as the external atmosphere becomes warm enough to affect materially the interior air of their hives, the bees begin to uncluster and seek to fly abroad. The same effect is produced when a colony is carried into a greenhouse, or any place artificially heated; the bees immediately become uneasy and seek in every way to leave their hive, and if the entrance is closed they are forced to discharge their faces, and often perish. It is very evident then, that if the bees in cold weather could be assisted to increase the temperature of their hives, so as to make it comfortable for them to uncluster and move freely about, there would be a great loss of bees tempted to sally out in ungenial weather, and, in addition, a largely increased consumption of honey, as it is a well-settled law of animal life, that every muscular effect presupposes the consumption of sufficient food to produce it.

The pertinency of these remarks will be seen, when I recommend, as the only reliable remedy for damp and mouldy combs and diseased bees in wooden bee-hives, a free escape from above in cold weather for the moisture generated in a strong stock, instead of allowing it, by condensing upon the interior surfaces of the hive and frames, to drip upon the combs and bees. Now, this remedy will never be adopted so long as it is considered a fundamental law of safe bee-keeping, that the animal heat of the bees must, if possible, be all retained in the hive; whereas the true principle is, that the animal heat over and above what they need for their health and comfort, ought not to, even if it could, be retained, any more than that human beings should try to retain the surplus heat of their bodies.

It may relieve the apprehensions of some of your readers



who have always regarded upward ventilation in winter as injurious to their stocks, to learn that where this is given the bee-entrance may be so nearly closed that, on the whole, the bees will be as warm as with the larger entrances which are necessary when no such ventilation is used.

At some future time I will detail some experiments which will more fully establish the truth of an assertion made by a German writer, one hundred years ago, when stating the necessity of upward ventilation in wooden hives, that it is not cold, but cold and dampness, that kill the bees.

To secure in the best manner this upward ventilation in wooden hives, I advise your readers to remove at once the board or cover which is over the bars or frames, replacing it with a straw mat or a piece of an old blanket, or any condemned woollen garment, contracting the bee entrance to half an inch. If the hives are exposed to the weather, I take it for granted that a tight box cover will be put over them.

At page 57 of Mr. Neighbour's excellent treatise on bees, a cut is given of a straw hive designed by Mr. Woodbury, in which bees would probably winter well, but by adopting the kind of winter-cover over the frames, or bars, recommended above, it will be found that bees will winter almost if not quite as well in wooden as in straw hives, thus enabling the apiarian to dispense with a material not only in itself too perishable, but very apt to become musty and to harbour vermin. The top cover is, after all, the essential point, as a straw hive with a wooden cover, on the cold surface of which the moisture from the bees will freely condense, is far inferior to a wooden hive with a straw or woollen cover.

I cannot close this article without expressing to Mr. T. W. Woodbury my thanks for the warm welcome he gave me to your columns. Having had an opportunity, quite recently, of reading more carefully his communications to your Journal since 1859, I find that to him, no less than to Mr. S. Bavan Fox, I am indebted for a generous appreciation of my apiarian labours.—L. L. LANGSTROTH.

### REGICIDE AMONG BEES.

WHEN "R. S." first mooted the theory, that regicidal attacks were initiated by stranger bees entering the hive unperceived, I stated that I deemed the suggestion well worth attention, and have since been on the watch to detect, if possible, any circumstance which might tend to confirm the accuracy of his conjecture. So far, I am bound to say, that with the exception of the occurrence related by me at page 335,\* I have never witnessed anything of the kind, and, therefore, still venture to doubt the accuracy of his conclusion. I have, moreover, another reason, and that is, that keeping, as I have been accustomed to do, bees of different species or varieties side by side in my apiary, I have become aware of the fact that there is far more of intermixture between neighbouring families of bees, than apiarians generally have had any idea of. To such an extent, indeed, does this intermixture take place, that it appears to me the species must rapidly diminish, and even ultimately become extinct, if the chance meeting of a wandering stranger with the queen of the hive into which it had accidentally strayed, were, as "R. S." supposes, sufficient to set on foot the regicidal frenzy.

I have never seen any theory published by the Germans respecting regicide among bees, with the exception of Dzierzon's statement, that if a queen wanders beyond the "brood-nest," she is liable to be stung to death by the workers; but in the course of a correspondence which I have recently had with another distinguished German apiarian, I incidentally mentioned the subject, and was informed by him that he had frequently had young queens imprisoned and killed on their return from successful wedding flights, and that he attributed it to the presence of the well-known sign of impregnation communicating to the unfortunate queen a peculiar odour, which prevented her being recognised, and caused the workers to treat her as a stranger. It is, of course, apparent that this hypothesis fails to account for the numerous instances in which princesses are imprisoned and killed prior to a successful ex-

cursion, as well as for those in which matronly queens fall victims to the seemingly insensate fury of their own offspring.

In reply to the concluding query of "R. S.," I may state that the partial, and sometimes even the entire, interchange of combs is so often resorted to for various reasons, that it is constantly occurring in my apiary all through the season, and that no effect of a regicidal character arising from this cause has come under the observation of—A DEVONSHIRE BEE-KEEPER.

### OUR LETTER BOX.

BOOK (J. W. Eristol).—"The Poultry-keeper's Manual." It will be published at our office in about a week. The price will be advertised.

BUFF COCHIN-CHINA FLIGHT FEATHERS (H. G. P. G.).—Light-coloured flight feathers are only a defect, not a disqualification. Your birds sneezing shows that they have had colds. Cochins are not subject to rump. Feed them liberally with bread and ale twice every day.

BRAHMA POOTRAS (A. O. W.).—We believe the light Brahmas stand quite an equal chance with the dark, if they are equally good. It is necessary to notice one thing—the fact of not being dark does not make a light one; these latter are birds of feather. Many of the dark ones in the single class were not only perfect in feather, they were very large and well shaped. We do not know that your bird was faulty; we only speak generally.

SEBRIGHT BANTAMS (N.).—The Sebright Bantam is a composite bird, and for this reason will sometimes throw back to its forefathers, many of which were single-combed birds. Many good breeders of these run them together and breed both colours. We have done it ourselves; the result has been to make the silver creamy in colour instead of dead white. As it is very necessary to introduce fresh blood continually, we recommend you to make your walk next year of the silver cock, two of the palest of his daughters, and two fresh silver hens. You should take care of the cock, as many of this breed are not stock-getters.

GAME AND MALAY CROSS (W. J. D. T.).—The cross between the Malay and the Game makes a very hardy and exceedingly quarrelsome bird. They are good eating if killed very young.

SPANISH COCK'S FACE STAINED RED (W. E.).—If the cock in question, having only a red patch on his face, is put to a thoroughly perfect hen, you may, and probably will, breed some good chickens, but we believe it is hopeless to try for perfect produce from imperfect parents. No other qualities would induce us to keep a cock with red in his face or over the eye. A brown tinge on the body of a Brahma is a very serious defect. It is not a disqualification.

COCHIN-CHINA PULLETS (N.).—Our Cochin and Brahma pullets seven months old have been laying some time, and always do lay before seven months. We have Spanish now laying at that age. We know they do lay irrespective of weather, but not irrespective of condition, and unless they are and have been in good condition, they may, though seven months old, be not more forward than a pullet half their age.

COCHIN-CHINA CHICKENS (Beginner).—Your mistake was to keep your chickens in a room. It is not, however, so much the room that is at fault as the flooring. It is impossible to rear chickens at this time of year on a wooden floor. It is damp and cold, and gives the chickens the cramp, of which they die. Put them in a barn, loose box, or any covered place with a floor covered with loose gravel, sand, or road-grit, and feed as you have fed.

VULTURE-HOCKED COCHIN-CHINAS (Ingulter).—A fowl is said to be "vulture-hocked" when the feathers of the thigh come to a point, and project as a kind of canopy beyond the hock or knee of the bird, as those feathers do in the vulture and others of the Accipitres.

GUINEA FOWLS (N. C. Nenagh).—There is no certain mode of determining the sex until they begin to utter their usual cries. "Come-back" is the cry of the hen only. The note of the cock is a kind of wail.

BLACK COCHIN-CHINAS (Tyro).—The plumage should in both sexes be uniformly black; but we can scarcely recollect of having ever seen a pen of adult birds of this variety in perfect feather, the cocks being almost invariably stained with red or copper feathers.

INCUBATOR (H. R. Hiley).—We saw a gentleman connected with the company who have patented the incubator we have repeatedly mentioned, and he said that it would be made public in a few days, but we can give no further information.

CANARY CEASED SINGING (—).—Your Canary is either asthmatical or too fat from eating hemp and rape seed; gradually leave off both the hemp and rape seed; do not give any sugar or cake; feed on canary seed, millet, and oat grits, with a little chickweed and groundsel. For a change he may have a little piece of bread soaked in milk, or a little piece of boiled carrot; and if his breathing is difficult, put some Spanish liquorice in his water. By following this course I have little doubt that he will regain his voice, and sing as sweetly as ever as the spring advances.—B. P. B.

### LONDON MARKETS.—DECEMBER 18.

#### POULTRY.

FRESH, cool weather has caused our markets to look up again, and has given a stimulus to trade, which, coupled with the approach of Christmas, has caused a cheerful tone. It is hardly possible to quote any price for Turkeys. As a rule, good quality being given, they are like roast beef, the mere they weigh the more they are worth. There is the appearance of a good market.

	s. d.	s. d.		s. d.	s. d.
Large Fowls.....	3	0 to 3	6	Grouse .....	0 0 „ 2 0
Smaller do. ....	2	0 „ 2	6	Partridges .....	1 9 „ 2 0
Chickens .....	1	6 „ 1	9	Hares .....	2 0 „ 2 6
Geese .....	0	0 „ 0	0	Rabbits .....	1 4 „ 1 5
Ducks .....	0	0 „ 0	0	Wild do. ....	0 9 „ 0 10
Pheasants .....	2	0 „ 2	6	Pigeons .....	0 9 „ 0 10

\* Vide JOURNAL OF HORTICULTURE, Vol. VI., page 67.

I may here remark that "R. S." is mistaken in believing that the bees in this case were in a frenzy of concern for the safety of their queen. They were unquestionably thrown into much confusion by the attacks of marauders whilst they were being shifted into another hive; but they gave no indication whatever of having missed their queen (whose absence from among them was scarcely more than momentary), or of being under any concern about her.



## WEEKLY CALENDAR.

Day of Month.	Day of Week.	DEC. 26—JAN. 1, 1886.	Average Temperature near London.			Rain in last 38 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.			
26	TU	ST. STEPHEN.	45.4	32.6	39.0	13	8	48	54	43	0	43	0	2	8	0	360
27	W	ST. JOHN THE EVANGELIST.	44.2	30.9	37.5	14	8	48	55	3	44	0	0	2	9	1	361
28	TH	INNOCENTS.	45.4	30.9	38.1	11	9	8	55	3	20	1	16	3	10	1	362
29	F	DAVID DON DIED, 1841.	45.7	32.0	38.8	17	9	8	56	3	2	2	30	4	11	2	363
30	S	VELVET DUCK ARRIVES.	44.4	32.4	38.4	15	9	8	57	3	52	2	41	5	12	2	364
31	SUN	1 SUNDAY AFTER CHRISTMAS.	44.4	30.5	37.5	12	9	8	58	3	49	3	44	6	13	3	365
1	M	CIRCUMCISION.	43.5	31.3	37.4	12	9	8	59	3	58	4	37	7	14	3	1

From observations taken near London during the last thirty-eight years, the average day temperature of the week is 44.7°; and its night temperature 31.5°. The greatest heat was 58°, on the 23th, 1855; and the lowest cold, 1° below zero, on the 28th, 1860. The greatest fall of rain was 0.70 inch.

## FAILURES IN TROPICAL FRUIT CULTURE.



FAILURES! an ominous word to begin a paper with!" I have no doubt most of your readers will exclaim; and certainly I must confess that it is not pleasant having to

write about one's own want of success, but thinking that, perhaps, even failures if recorded may help others to keep clear of them, or at all events to profit in some way from my experience, I have devoted this paper to the subject.

I have, I believe, at different times tried my hand at most well-known tropical fruits, but with the exception of the Mango, Mangosteen, and a few others, I have been unable to coax them into a fruiting state, or if I have obtained fruit it has been uneatable. I propose, therefore, to mention one or two of these failures, and, first of all, I will begin with the Bread Fruit (*Artocarpus incisa*).

This tree I was always most anxious to succeed in fruiting, and having had three healthy trees sent me, with full instructions as to climate and soil, I thought it a good opportunity to attempt their culture. I had them placed in a house where they could have the exact treatment they required, and where no other plants would interfere with them. They were planted in a sandy loam in very well drained tubs (drainage is most essential for this tree, as in stagnant soil it will not live many months); they grew uncommonly well, and in a year or two became very graceful objects, as the branches grow out in regular order from the main stem, becoming smaller as they reach the top, which gives the tree a cone-shaped appearance, and the leaves are nearly 2 feet long, of a beautiful green colour, and divided into lobes.

For some time, although one of the plants constantly produced flowers, nothing would induce it to fruit. I tried everything I could think of, but all to no purpose, and I was just on the point of giving it up as a bad job, when my efforts were at last rewarded by two fruit setting. These, it is needless to say, I watched with the most intense anxiety. Visions of a fruit filled with the most delicious breadcrumb, or, perhaps, even superior to bread, floated before my mind's eye. It is true that as time passed on my vision was somewhat disturbed by the appearance of the fruit itself, which when about as large as a small Turnip stopped growing, although it by no means became softer, but rather the reverse. However, I did what I could to ripen the two fruit, raised the temperature, and gave plenty of air well warmed, and was rewarded at last by one falling off "dead ripe," as a friend informed me. On trying to open it we found it harder than we expected, but, as my friend said, "that was the shell!" so, as a knife was of no use, we procured a saw, and succeeded, after some

labour, in opening it; but, alas! where was the bread? The inside was certainly rather softer than the outside, but still dreadfully tough, and tasted as much like a mixture of cocoa-nut fibre and frosted Parsnips as anything could taste. Here was disappointment; but we were not to be done, and as I had read somewhere of its being needful to bake the fruit, I suggested the other one should be cooked. My friend liked the idea, and in order to insure success, recommended its being roasted "à l'Otahite"—viz., by digging a hole in the ground, and filling it with hot ashes, putting the fruit upon them, and covering the whole up with soil. No sooner said than done. The sole remaining "fruit" was picked, and, after we had dug a hole, and, with great difficulty, lighted a fire therein, the Bread Fruit was deposited in the hot ashes, and carefully covered with turves. In about an hour it was dug up looking more like a charred stump than a fruit, and having been opened with the aid of a trowel we proceeded to taste the bread; but enough! I will not describe our disappointment on finding that it had the consistency of a very hard dumpling, and the taste of a very bad Potato. Merely permit me to express a humble but most decided hope that it may never be my lot to feed on the Bread Fruit, for I should most assuredly starve ere I brought myself to eat it again; in fact, I never tasted anything worse, and although I have had many since then, they all had the same flavour.

I should add that the trees were grown in an ordinary stove temperature, with plenty of air and moisture when not at rest. There is not much difficulty in growing the tree; but I much fear that in England the fruit will never be fit to eat.

Another tree I was desirous of fruiting was the Cocoa-nut Palm (*Cocos nucifera*), and as it is easily raised from the nut, and, unlike many Palms, bears male and female flowers on the same tree, it is in these respects well adapted for culture. I found no difficulty in making ordinary Cocoa-nuts push in about seven or eight weeks in a strong bottom heat; at least, out of twenty, on an average six would grow, but the young plants invariably failed after attaining the height of a few feet. This, however, I afterwards remedied by sowing the nuts where they were to remain in a rich, but very rough, vegetable mould, mixed with a little sand, and by constantly syringing the trees with weak salt water. By these means, and by growing the plants in a high temperature, they soon formed magnificent objects with their great, yet elegant leaves, often more than 10 feet in length. I soon found, to my great mortification, that no house I had would be half tall enough to grow them in, and I was at last obliged, though much against my will, to destroy them, after they had seriously injured the roof by pushing against the glass.

This tree could, I should imagine, be easily fruited, provided it had sufficient head-room, and was never moved after beginning to grow; this last is an important point, for if transplanted, no matter how carefully, it never seems to thrive again. As the trees grow they should have plenty of light and heat, and be constantly syringed well both with weak salt water and with fresh; they should also



occasionally be watered as well as syringed with salt water, taking care not to use it too strong. I would, however, warn any one who means to attempt growing this gigantic plant that a height of at least 40 feet will be required, and each tree must have a tub fully 6 feet across and 4 feet deep.

Another tropical fruit I could never succeed with is the Anchovy Pear (*Grias cauliflora*), rather a common stove plant I believe, at least I have met with it several times, but one I never heard of as bearing anything more than flowers. My tree grew well enough, but could never be induced to open its blossoms, and they invariably fell off in bunches. I was the more vexed at this, as the tree itself is really ornamental, bearing fine leaves, somewhat like those of a Pear, often 2 feet long, and the flowers would, I am sure, be both handsome and fragrant if they would open. I believe I tried almost everything to cure the plant of this unfortunate propensity, but in vain; and if any of your numerous readers have been more successful with it I should feel grateful for a few hints.

Passing over the Mammee (*Mammea americana*), a noble tree, with a delightful fruit somewhat like an Apricot, but richer, and which I was fortunate enough to fruit twice, so I suppose I must not class it with my failures, I will come to the last I mean to mention at present, as I fear our good Editors will be getting rather impatient with me for filling up so much of their valuable space; this is the Sappodilla (*Achras sapota*), a tree with beautifully smooth leaves, and white bell-shaped flowers. It grows freely, and generally looks very healthy, which is more than can be said of most tropical trees, but it seldom flowers, and still more rarely bears fruit, which never ripens, but rots on the tree in a green state, and nothing seems to be able to prevent this. I some time ago gave away my trees in disgust, which now I am sorry for, as the tree is very ornamental, the leaves being so smooth and shining that they look as if they were waxed, and the flowers very sweet-scented, besides which the plant will grow anywhere in a stove, and is by no means particular as to soil or culture.—J. H.

## THE MODERN PEACH-PRUNER.—No. 19.

### ORCHARD-HOUSE PRUNING AND TRAINING.

Among the various beautiful forms suggested by cordon training none are superior to the spiral cordon. This style is excellent in every way, productive, manageable, and elegant in appearance. Visitors invariably prefer it, and during the blossoming period it shows to the best advantage in the whole house.

There are various ways of forming the spiral cordon. Two trees, equidistant, may be planted in the border, and curled round wires or rods as desired. The diameter of the spiral need not exceed 15 inches, and at this interval there is no fear of crowding the spurs and shoots. A Peach and a Nectarine tree look very well together thus placed. Round the pillars of an orchard-house is the most natural position for a spiral cordon. I have, however, thought of late to place three trees together, equidistant, in the border of the house, and to coil these, at regular intervals of 12 inches, round five upright wooden rods firmly fixed into the ground. These five posts are connected at the top by a stout iron hoop. In this case the diameter of the spiral should be greater, and be about 2 feet. This plan will be found very advantageous for utilising the central borders of the house. Light and air are freely admitted within the spiral, and every part bears well. Indeed, the form seems so natural to the trees that the spurs on them are unusually strong. The continuous ascending curve favours the development of the tree, while it encourages healthy shoots all round. Sometimes the ends of the spiral cordons are allowed to run along the rafters, or they might be slightly pendulous, to check any rank growth; but of this last there is little fear. Cordon trees in full bearing are never over-luxuriant, but rather the reverse: therefore we should encourage them to grow rather than dwarf them. Trees thus trained never require lifting nor root-pruning, which is a great saving of labour.

The shoots of spiral cordons may be treated as those of bush trees, and be stopped at three leaves, if the intervals between the twist be 12 inches. Second growths should be stopped as usual at two leaves.

There is no reason why Apricots and Plums should not form handsome spiral cordons. Cherries might produce too much wood.

For the back wall of any lean-to no method equals the diagonal

cordon. If the house is low, say about 9 feet high, then no very strong trees should be thus trained, and those of moderate growth would require the double or triple cordon. For houses with 10 feet of back wall single cordons of moderately vigorous kinds would suit. Twelve or thirteen feet of back wall is the best height for single cordons. They will not be long in reaching the top, and when there there is no trouble in keeping them close. Very strong sorts, such as the Stanwick, may be double cordons on such a wall; but there is no doubt that the single cordon is the easier to form.

The distance between the trees, counting from stem to stem, varies according to the style of treatment. If flat cordons, with the shoots rather closely kept, be decided on, then 12 inches from stem to stem will suffice, and there is no practical difficulty in keeping the spurs and shoots within these limits, as the amateurs, now rapidly increasing in number, who have adopted this style, will testify.

Trees grow naturally towards the sunlight, and thus produce, if allowed, numerous forerights. Out of doors we should soon lose the benefit of the wall radiation and shelter if these were not restrained; but in orchard-houses this is not the case. There, forerights are the rule rather than the exception. Flat diagonal cordons, then, are easy of formation, and can be trained without any more difficulty than fan-shaped cordons. Of late I have gradually been led to adopt a larger form of the diagonal. In the new house just planted the trees are placed as single cordons, being old trees transplanted, and the oldest in England of this form, against a 13-foot back wall, at intervals of 15 inches. All the roots were found to have been produced in a forward direction, towards the light, and thus no difficulty arose in planting or transplanting from lateral development, as we expected. These trees have straight stems about 2 inches thick, and the spurs on them are generally half an inch in thickness. On these spurs are from six to ten shoots, which project forward, and are sometimes spread out symmetrically by ties. These large spurs and shoots require but little winter pruning, as most of the shoots on them are of classes 5 and 7. They look exactly like a small bush tree grown in an eight-inch pot, and could bear nearly as well. In replanting these trees the lower portion of each alternate one is now made to project about 12 inches from the wall, the remainder lying close to it. The object of this is to acquire more space for the roots, while the shoots on the lower third of the tree thus advanced will be allowed to grow all round, as in pyramidal cordons. Thus the space gained by advancing the alternate trees will be utilised, and the tree be allowed to make more wood at that part which most requires it. At about 5 feet from the ground the stem is allowed to touch the wall, and is trained, like the others, close to it. The angle of inclination of all is only about 6°, as the trees are now full grown and established. To distinguish them from the usual flat diagonals I have named them "diagonals with pyramidal bases."

The advantages of diagonal training may be briefly summed up as follows: The trees come sooner into bearing, which is only to be expected, as each tree lies at the natural angle made by a branch with the parent stem; the wall is sooner covered than by any other mode; many varieties can be grown side by side, and those not found good replaced; a succession is obtained from the same wall, which is a great object in small houses or gardens; the produce is large; the training is not more difficult than in the case with other forms; and the trees are very readily untied to cleanse the wall, also a matter of importance.

There is little doubt that, when better known, this form for the back wall will be common. Mr. Richard Clay, of Hampton Court, has had the happy idea of largely adopting this method for his large span-roofed house, 160 feet long by 20 high, and of great width. In this house there are six rows of diagonal cordons, trained parallel to the length of the house on wires at an angle of 45°, with shoots on both sides. The produce of this new house is already very great.

For the open air it may be questioned if, in this climate, the diagonal is sufficiently large of form, and therefore suitable, although it succeeds in France. It is, however, strange that it is not more adopted for Pears, Apples, and Plums on the open wall, where a large variety and a succession of fruit is desired, and the walls are more than 11 feet high. Cherries are rather rebellious under this form. Plums do very well, requiring, however, the triple cordon; very strong-growing sorts might not suit. For choice Apples, however, and especially for Pears, there is no question of the advantages to be derived from this simple and natural mode of training. It is much



adopted on the Continent, and will gradually make its way here, not, however, that English gardeners need this teaching. I believe I may say that Mr. Pearson thinks highly of this form, and I know that Mr. Rivers does.

The easiest method of forming a diagonal cordon is as follows:—A well-drained trench, 2 or 3 feet wide, and about 1 foot deep, is made along the wall of the house. Healthy and vigorous young Peach and Nectarine trees are then laid against the back wall, at intervals of 12 inches if for the double and triple cordons, in case the wall be low, and at 15 inches if for the larger-developed form, described above as single cordons. The trees should have healthy buds and shoots all along their length, no vacant spaces from accident or otherwise. The first year they may be upright, or at the angle of 70°, according to their vigour. The second year, if prosperous, they may be lowered to 45°, there to remain. In the first winter of planting about one-quarter of the tree may be cut off, always to a front bud, as thereby the future growth presents less deformity at the point of junction. Wires or trellises placed at angle of 45° much facilitate the training, as the object is to have the stems as straight as possible. If placed otherwise, guiding-rods for the young wood will be necessary, with frequent ties—say at every 6 inches. The trees will largely benefit by no fruit being taken from them till they are three years old, and then only one or two specimens. There is no loss of time, as these trees can now be had 6 feet long at Mr. Rivers's, and by resting them one year they will bear every succeeding season, lasting the usual time of any such trees. After the first winter's heading-down, no further shortening of the trees is needed. Provided the shoots and roots are then well looked after, the leader or leaders may be left alone. Accidents may be remedied by grafting by herbaceous approach, an easy and a certain way.

The next form of cordon which I shall notice is the lateral cordon. This is best described by Mr. Rivers in speaking of the ground vinery, which is also admirably adapted for the close cordon training of Peaches. "There are no cross bars, but merely a frame; in the top bar is a groove half an inch deep; in the bottom bar a groove a quarter of an inch deep; in the bars at each end are grooves half an inch deep. The pieces of strong 21-oz. glass, which should be bent so as to fit, are pushed into the upper groove, and let fall into the lower one. The two end pieces of glass are then pushed inwards, so as to bring the pieces close together. A little putty at the lower bar keeps water out, and a little is also applied to the end pieces, so as to prevent lateral motion. The width of such a span-roofed frame should be 3 feet at base; 20 inches of height to the ridge; slope in all, 24 inches." In such a structure two Peach trees laid horizontally side by side, and raised on rods or wires sufficiently to keep them free, would produce the finest fruit. In lengths of 7 feet, only one at each end being closed, these structures are easy to manage, and would be very economical. It is easy to see how only close pruning, as described, could be practised in such cases.

An adaptation of these principles, wherever the front walls of an orchard-house were available, would be to take one-half of the span of this "ground peachery," which would give a light 7 feet long by 2 broad. Some bricks or perforated planks, placed 30 inches from the wall of the house, form a rest for the lower edge of the light, and afford low ventilation, which is also secured by an interval of 2 or 3 inches being left between the upper edge of the light and the wall of the house. Tiles or slates make the best floor for such miniature lean-to houses. It is easy to place hinges so as to open them, and they should be secured from high winds lifting them. Mr. Rivers wrote to me very recently, "It will be a hard fight between these low lateral cordons and diagonals as to produce." No doubt of it; and if the back wall of the house and the low front be thus utilised, it is difficult to conceive how they could be better employed. The roots should be placed on a well-drained spot, and the shoots of these lateral cordons stopped at three leaves as soon as five are produced, and second growths at two leaves as soon as three or four are developed.—T. C. BREHART.

### HOW TO USE PRUNING SCISSORS.

In your Number for the 11th of November, writing on the "Cultivation of the Vine," Mr. Wills says—"Avoid using scissors for pruning the Vine. These have a tendency to bruise the shoot for an inch or more below the cut, &c." This certainly differs from my own experience in the matter. For several years I have used only scissors for pruning Vines,

Peaches, &c.—scissors of the usual form, one arm being a curved square bar of metal, under which shuts the knife-blade of the other.

Now, the fact I wish to point out is this, if you are careful when pruning always to place the curved bar on the part of the shoot that is to come off, you may then close the scissors and cut without the least chance of a bruise on the part left, and with a less chance of splitting than when you use a knife.—J. S. S.

### FLOWERS OF THE PAST SEASON.

PELARGONIUMS.

"Which do you consider the best Geraniums of last year?" By Geraniums the questioner meant greenhouse ones. Well, it really requires some time to reflect as to which were those of last year. One year we see them as seedlings exhibited; and when we are the second year examining them in our own houses another batch of candidates for public favour is presenting itself to our criticism. It is the same in Roses, Verbenas, and other florists' flowers, and, indeed, in Orchids, stove plants, Ferns, &c. There is a continuous progress going on; and although

"To paint the Lily,  
To throw a perfume on the Violet,"

may have been in the eyes of our great poet "a wasteful and ridiculous excess," yet it is what we are now continually doing. The man who tells me that he thinks the little wild *Viola tricolor* more beautiful than the lovely varieties that the skill and patience of the hybridiser have added to our gardens is, I have no doubt, sincere; but for all that I hold differently. And although there be an impatience on the part of some at making inroads into the domains of the botanist, so that even good Mr. Bateman said the other day that he was always glad when any of Mr. Dominy's Orchid marriages proved unhappy, yet we are all, I think, gainers by their success. Some persons have said that further advance in some sections (this amongst others), is impossible. This I hold to be a fallacy; and I would also again suggest what I have frequently stated before—that when we have made such advances as we have done further progress must necessarily be slow, and a little improvement each year all that we can reasonably hope for. I sometimes look back and see what has been done, and remember how I have thought nothing could go beyond flowers which are now passed away from remembrance; and so the other day, when talking with Mr. Hoyle of Reading, and expressing doubts as to his progress, he immediately referred me to one of his new flowers, Charles Turner, which, as having a white throat, is a decided advance on all scarlet flowers. I now proceed to notice the flowers of last season.

HOYLE.

1. *John Hoyle*.—This flower merits all the honours that were heaped upon it, and the favourable manner in which it has been spoken of. It is a large flower, of fine form, white throat; lower petals orange red, richly painted; upper petals very dark maroon, evenly bordered with a bright carmine margin.

2. *Mary Hoyle*.—A lovely and refined flower, large, and of excellent habit, orange rose with a white throat; blotch small, with bright orange surrounding it.

3. *Exhibitor*.—Lower petals rose, with white centre; upper petals maroon, shaded. Good habit.

4. *Mrs. Workman*.—Orange rose lower petals, white centre; maroon upper petals, shaded with red and orange.

5. *Pretty Mary*.—A beautifully coloured flower. Orange rose lower petals; rich orange upper petals, painted, with small maroon blotch.

6. *Publicola*.—Deep orange rose petals, rich maroon top. Stout, good flower.

7. *Sunny Memories*.—Orange rose lower petals, white throat, rich maroon blotch, with a margin of bright orange. A very pleasing and bright-looking flower.

8. *The High Admiral*.—Fine, large, and bold-looking flower. Mottled rose and lilac lower petals; rich maroon top, bright margin.

FOSTER.

9. *British Sailor*.—Lower petals deep rosy violet; dark top petals, shaded on the margin with lake.

10. *Constance*.—White centre; lake lower petals.

11. *Florist*.—A striking bold flower, scarlet rose, with white throat. Free-flowering.

12. *Citra*.—Deep rose lower petals, maroon spot on top petals orange margin, white throat.



13. *Amazon*.—A large light rose variety, not to be confounded with an older *Amazon*. A pretty flower.

BECK.

14. *Astarte*.—A pretty blush flower, with pink spot; large. Much in upper petals.

15. *Alba Formosa*.—In the style of *Alba Regina*. Very pure white, purplish crimson spot. A well-shaped flower.

16. *Heartsease*.—White, purplish spot on all the petals.

17. *Rose Spot*.—Pretty colour. Bright rose, rose spot.

18. *Antonina*.—Purplish crimson, white throat; petals narrow.

19. *Pulcherrima*.—Something in the way of Beck's *Hector*, but no improvement.

20. *Excellent*.—Bright crimson, with very dark spot.

It is but fair to say that I received the plants of Mr. Beck's varieties very late, and consequently had no opportunity of seeing them at their best. I believe the flowers may be placed thus—*John Hoyle*, *Mary Hoyle*, *British Sailor*, *Sunny Memories*, *Pretty Mary*, *High Admiral*, *Astarte*, *Alba Formosa*. The others I consider inferior.—D., *Deal*.

### TROPICAL FRUITS.

THE papers on tropical fruits by "J. H.," induce me to offer the following remarks, having spent some time in the tropics of both the New and Old World, and being well acquainted with their fruits from the grateful *Garcinia mangostana* of Java, to the stinking *Durio zibethinus*. The latter fruit can never become a favourite in this country. It is certainly very agreeable in flavour, but the powerful disagreeable odour when ripe, like that of Onions in the last state of decomposition, and which is also imparted to the breath of those who eat the fruit, makes them as disagreeable to come near as those who have eaten horseflesh. The *Durio* in India more frequently attains the height of 60 than 30 feet, as stated by "J. H.," and has a stem the size of that of an ordinary Oak. I was not aware that it had fruited in this country, and I would go a considerable distance to see it. Perhaps "J. H." would say where it is to be seen.

With respect to *Anona squamosa*, the Scaly Sweet-Sop of South America, it is certainly very good. The tree attains a height of from 15 to 20 feet in Brazil, while *A. muricata*, or the Sour-Sop, only attains a height of 10 feet. *A. cherimolia*, or as it is sometimes called, *A. tripetala*, is one of the best, but I am not aware of its having fruited in this country. There are five or six other species of *Anona* cultivated for their fruit.

The *Mangifera indica*, or Mango, is, perhaps, as much esteemed as any fruit in the tropics. It varies as much there as the Apple does with us; some kinds being much like a very fine Apricot, and others, the majority, like a mixture of turpentine and honey.

The *Garcinia mangostana* is certainly one of the most delicious fruits grown, but you must go to Java to eat it in perfection. Even at Calcutta it will not succeed; the supply coming from the Straits. This is easily accounted for: The temperature of Java, Sumatra, and other neighbouring islands, ranges from 82° to 85° by day, and falls to 70° by night; while that of Calcutta, in March and June, ranges from 75° to 110° in the day, and during the nights of December, ice is frequently formed. Much noise was made some time back, when the tree at Sion House produced three or four fruit. I may be wrong, but I always looked upon that fruitfulness as accidental, and not obtained by superior cultivation; or why has it not fruited since? Being well acquainted with its culture, I was only surprised that it ever fruited at all, as its treatment was very different to what it would have received in Java. I have seen the *Mangosteen* fruit freely in Brazil, but the fruit there will bear no comparison with that produced in Java.

I well remember some years ago meeting a party of Europeans at the table of the British Consul at St. Salvador, on which occasion twenty-seven varieties of tropical fruits were served as dessert, all of which were new to the party, except the Pine and Orange. Various opinions were expressed as to the various merits of the fruits. The *Musas* were pronounced soapy; the *Mangos* smacked too much of turpentine; *Sour-Sop* too acid; *Mimusops dissecta* and *Blengi*, good; *Chrysophyllum cainito*, better; the *Navel Orange* the best fruit on the table; and then the *Pines*, a variety called *Abocichis*, very fine. By-the-by this is the only Pine admitted to the royal table, and the best I ever ate. Beautiful as this dessert appeared on the table, there was a want created by the absence of Grapes, Peaches, and

Strawberries. *Psidium Raddii* was very good, and the stinking *Durio* was placed in the verandah for those who liked to try it.

While on the present subject, may I ask if *Lucuma deliciosa* has fruited in this country? I ate it in perfection in Chili, though it is not a native of that country. I may return to this subject at some future day.—RADDII, *Peterborough*.

(We enclosed the preceding letter to "J. H.," and the following are extracts from his reply:—)

"I would give the address 'RADDII' requires in his private note, and also I should much like to know him, as his remarks are, many of them, much in accordance with my own. With regard, however, to the *Durio*, I think he rather exaggerates the odour, which, although very revolting, is, when the fruit is constantly kept wet during ripening not quite so bad. I have detected a slight oniony smell, but as I never had the pleasure of smelling anybody's breath directly after he had eaten 'horseflesh,' I am unable to say whether I think the odour similar to that. I have an uncle who for some years took much interest, while he was in Madras, in growing this fruit, and from whom I had originally sent some small trees of this sort, but he has often told me that if the fruit is kept moist whilst ripening, the scent is far less; and a friend of mine who grew the tree, and once fruited it in England, found the same. Again, varieties differ much, some being less offensive than others. I am not saying that the fruit does not stink, for it does; but this evil may, I am certain, be much lessened, and I believe if grown in our hothouses its smell is never so strong as it is abroad.

"I perfectly agree in what 'RADDII' says (by the way is 'RADDII' the name of a plant, for if so I should much like some cuttings?) about the *Mangosteen*, and he has hit the vital point I am certain about the temperature. I found that to my cost. I feel sure, also, that he is right about the *Sion House* plant. I firmly believe it fruited 'by accident,' or why, as he says, 'has it not fruited again?' I have a letter before me from Mr. Smith, some time gardener there, and who was an under gardener there when this tree fruited. He seems to think the trees very bad now, and they never fruited or flowered before or since, and never will, mark my words, as they are kept now.

"What Pine is it with the unpronounceable name, that is always used at the royal table in Brazil? Can we obtain it?"

"In conclusion, would your correspondent kindly give me a description of the *Lucuma deliciosa*, and any other unknown fruit? I should really esteem it an immense favour, as I take so much interest in the subject, and I am so thankful for information.—J. H."

There is no species known to botanists, we think, as *Lucuma deliciosa*. Our correspondent probably refers to *L. mammosa*, or Teated Mammee Sapota, a native of South America, and the West India Islands. It is sometimes called the "American Marmalade," the soft pulp of its fruit, of a russet colour, is delicious, and not unlike the marmalade of Quinces.]

### SOMETHING ABOUT ROSES.

OUR late lamented friend Donald Beaton (for though I never saw him in my life, yet his writings in your Journal must have made him so familiar to thousands of lovers of horticulture, that many who never saw him came to regard him as an old friend, now gone to his rest)—our late friend, then, was frequently saying that the queen of flowers, the Rose, never did so well as on its own roots: that, in fact, no kind of stock was so suitable for or so worthy of bearing this regal beauty amongst flowers. Now, I do not feel at all able to decide this knotty point. Where doctors differ I cannot undertake to pronounce a verdict that shall be decisive and satisfactory. I am growing some two hundred or more Roses in almost every form, on briars, on *Manetti*, on their own roots, double budded, and not budded at all, and after two or three years' more experience I hope I may be able to decide, at least in what form they are best adapted to my own soil and locality; but, for the present, I wish to take it for granted that in some soils certain Roses will do better on their own roots than in any other way.

I have also read lately an observation by an experienced rosarian that a Rose propagated from a bud (I mean to grow on its own roots) is far superior to one of the same kind propagated from a cutting. Now, I do not know how it may be with other amateurs, but I find the striking of Roses, or at least of the Hybrid Perpetuals, difficult and disappointing.



If I succeed in striking a lot and getting them to grow for three or four months, I find I lose a large per-centage in the repotting or removing, and I find in the case of bought Roses that I lose more of those sent to me on their own roots than of those sent in any other form. There is, however, one way in which I find I can propagate Roses with entire success and satisfaction, and that is by budding on the Manetti, and I want to know if I cannot get them on their own roots off the Manetti with success and certainty. I do not know whether my theory for doing this will be new to your readers; I must confess it is but a theory, though I believe it to be based on sound principles; and my chief object in writing is to induce others to join me in trying the experiment, if it seem feasible, or, to prevent disappointment to myself and others, by inducing some one more learned than myself in horticultural matters to point out in what respect the experiment is likely or certain to fail. The late Mr. Beaton, if I remember aright, used to say that the Manetti was only of use as a medium of getting Roses on their own roots; but I cannot help thinking that this very remark shows that he could not have used it extensively, for I well remember the Rev. Mr. Radclyffe writing not very long since, that in the case of a lot of Roses on the Manetti which he was removing, scarcely any had thrown out roots from the junction of the bud with the Manetti, but were depending entirely upon the stock for support. As far as my own experience has gone, I can thoroughly endorse this opinion both as to what I have bought and what I have propagated myself. I have found some few throw out roots from the junction of the bud with the stock, and I believe this will take place in the case of the budded Rose being a particularly free grower, or of the stock being injured in some way or planted too deep. In either such case the stock cannot supply sufficient nourishment for the Rose budded upon it, and nature assists by causing roots to be emitted at the junction of the bud with the stock.

This, as you will see, just brings me to my plan for insuring this production of roots from the bud, or, in other words, from the Rose itself, so that after awhile it shall walk on its own legs, and do away with the crutch or wooden leg with which it has hitherto been supported. The first year after budding on the Manetti I would let the Rose grow away as freely as it would. Then in the following autumn, say in November, I would take up the plant, cut a strip of bark off the stock just below the bud, about a quarter of an inch in width, and about half round the stock, and then replant, of course taking care to bury this wounded portion of the stock at least 2 inches below the surface of the soil. I conclude that this would so far check the flow of sap as to cause the formation of roots from the part from which the bark had been removed, or rather from the bud itself, and that the portion of bark remaining uninjured would be ample to carry on the healthy growth of the plant until the formation of new roots from the bud itself; or, supposing the bud to have done particularly well, it might answer to remove this portion of bark in the June or July following the budding, and thus obtain a good plant on its own roots in one season. In this case I need scarcely say that the plant should not be taken up, but the soil should be taken away from round the stock until the portion of bark can be removed with facility, and the soil then at once replaced. I am not sure whether budding unusually high on the Manetti, as for instance 9 inches above the roots, and then planting very deep, might not effect the same object—viz., the emission of roots from the bud. The flow of sap in this case, from deficient root-action on account of deep planting, as well as from the length of stock through which it would have to pass before reaching the bud, would be so much checked that I am inclined to believe that roots would soon be emitted from the bud to supply the deficiency of sap arising from the above causes.

I am half afraid that the Editors will say I am spinning a very long yarn about a very little matter, a case of "*montes parturient, nascitur ridiculus mus*;" and yet if it be a fact that some Roses in all soils, and all in some circumstances, do best on their own roots, and if it be a fact that a Rose propagated from a bud is better than one from a cutting, I believe the theory I have propounded will, on the whole, be found the surest and quickest mode of attaining the object in view, such object being understood to be the attainment, not of a dwarfed weakly plant about as long as your finger, but of a vigorous well-established plant, able to go ahead without nursing and coddling. I do not know why other stocks might not be used for this purpose as well as the Manetti; why, for instance,

short stocks of the Dog Rose, from 6 to 9 inches long, budded, and then planted deep so as to cover the junction of the bud with the stock, might not succeed in the same way.

In case of any of your readers commenting upon this contribution, I would especially ask for information on two points—1st, whether November would probably be the best time of year to remove the patch of bark?—and, 2nd, whether a width of more than one-quarter of an inch of bark, and extending more than half round the stock, would not be desirable? Of course if too little bark is removed, new bark would be formed over the place from which it had been removed, and, instead of roots being emitted, the flow of sap would thus be continued as before. I need scarcely explain that when roots have been freely emitted from the bud, it is intended that the Manetti stock should be cut away altogether from below the bud, and the Rose then replanted on its own roots.—COUNTRY CURATE.

## KITCHEN GARDENING.

DECEMBER.

THE work to be done this month will depend on the state of the weather; for instance, if damp and wet weather occur keep off the ground by all means; but if frosty many kinds of work can and ought to be attended to. First, as to protection. The Savoys should be protected if thought necessary, using them as fast as possible, and some of the Turnips should be taken up and laid in soil in the root-shed or other convenient place, cutting the tops off those left in the ground, by which means they will be induced to grow again, when they will furnish many a nice dish of greens when other things become scarce. If the weather should be very severe the Cauliflower plants under hand-glasses will require a little more protection than the glasses will afford them; this may be given by shaking a little dry litter over and between them; and should it be intended to keep the plants on the open border they should be covered with hoops and mats, or some of the numerous contrivances that gardeners are obliged to resort to. The Celery, too, must not be forgotten, covering it so as to leave nothing but the top leaves visible; some short dry litter is the best for this purpose. Endive, if well blanched, should be taken up and laid in by the heels, under cover, and the successional beds should have some flat tiles or slates laid over the plants, thus blanching and protecting them at the same time. Lettuces should be treated in the same way, and if there be a spare hand-light or two lying about they should be placed on the seed-bed of the latter.

Sowings of Mustard and Cress under glass should be attended to where that description of salad is in requisition. These are all the sowings which I make this month. Perhaps it may seem strange to some of your readers that I have omitted to mention autumn sowings of Beans and Peas, but it must be remembered that every piece of ground is already cropped, and even if it were not so, I am not an advocate for autumn sowing; but as early in the year as I can have a piece of ground clear and in good working condition, the latter being a great consideration with me, I make a start with early Peas, Potatoes, &c.

Advantage should be taken of dry mornings to get all the wheeling done without injury to the walks, and at this time of year every attention should be paid to the latter, keeping them in good order, so as to give the garden, as far as is practicable, a clean and tidy appearance; and in dull, damp weather the time may be well taken up with making labels, sharpening sticks, &c., so as to have them ready for the ensuing year's campaign, not forgetting to look over the root-store occasionally; and the seed-order may be prepared, referring to the cropping table to see what varieties have succeeded best, and making alterations accordingly. I think it is a very good plan to obtain seeds grown at a distance from the neighbourhood in which they are to be sown.

From my own cropping table or diary I will venture to give the following remarks on the vegetables grown here in the past season, and I think it would be very interesting and instructive if others would do the same, as different localities would produce different results, and we should learn each other's plans of guarding against the weather, which is the essence of the gardener's art. During the early spring, or rather the end of winter, vegetables held out well, and with the assistance of forced Sea-kale, Kidney Beans, Rhubarb, &c., lasted until the Asparagus was in, which was the case earlier than usual this year, and here it was remarkably good, and lasted till the Peas



were well in, owing to the hot weather which we had in May and the assistance of some liberal doses of manure water applied to it at that time. Cauliflowers did not do much here, not so well as they usually do, and every plan that I adopted failed to prevent them from buttoning and running to seed. Peas were very good in the early part of the season, and some tolerable gatherings were made in the latter part of it; but in the middle of the summer, when they ought to have been first-rate, they were hardly worth gathering, with the exception of one or two sorts. Yorkshire Hero and a second growth of Dickson's Favourite were the only ones with me that in any way repaid the extra trouble of watering and mulching. On the whole the Pea crop this year has been indifferent. Spring and summer Cabbages were in early and hearty well, in short they could not have been better, though I heard that in some parts they were not so good as usual. Spring Spinach did well, but the summer crop ran to seed too quickly, in fact, I came to the conclusion that it was a waste of time to sow Spinach. Dwarf Kidney Beans and Scarlet Runners did exceedingly well, but required much more water than they would have received had not the winter stuff been planted between the rows, and as that required frequent waterings and surface-stirrings, the Beans came in for their share of the benefits. They were in bearing later in the year than usual, as they were picked here late in October. Broad Beans did not do much, as they ripened too quickly. Vegetable Marrows did very good service all through the season, but they were planted in a good position, and received regular attention in watering, stopping, &c., as much, indeed, as a pit of Cucumbers. It has been rather difficult to keep the supply of salading up, especially where space is limited and the ground all exposed. Celery had a hard struggle, and took up much time, but after all it is very passable, and the late Celery will be good, as the autumn has been favourable. Carrots, Parsnips, Beet, and Onions are not so large as usual; but still they are just the right useful size. In the latter part of the season the winter stuff did wonders, and it is now in first-class condition. Turnips here are a very good crop, and Brussels Sprouts unexceptionable. Taking the season altogether there is little to grumble at, and very much to be thankful for, and I hope from the difficulties of the past year we may have gained experience, and summoned resolution to meet similar difficulties with a good heart in the next.

The present is the concluding article on this subject, and, like its predecessors, it has been written in the hope of imparting some little information, and I trust that any little defects that may have been seen will be overlooked on that account. In conclusion, I hope that if these few remarks of mine have been read by a master, that he will treat his servant well, and if by a servant, that he will do his duty to his master, and remember that a gardener's work is never done.—BENTWOOD, P. D.

## ROYAL HORTICULTURAL SOCIETY.

DECEMBER 19TH.

**FLORAL COMMITTEE.**—The last meeting of the Committee was held this day. Three plants only were sent for examination—viz., three *Odontoglossums* from Mr. Robson, gardener to G. Cooper, Esq., Old Kent Road, and which were in many respects similar to the varieties sent home by Mr. Weir; they were not named, and it was requested that they might be seen again. Mr. Veitch kindly sent a large collection of plants, consisting of *Lycaste Skinneri* in great variety; *Rhododendrons* Princess Alexandra and Princess Helena; beautiful specimens of *Poinsettia*, *Barkeria Skinneri*, *Urecolina aurea*, *Ancula japonica longifolia*, vera, and the common variety, in berry, and many other plants. The usual special certificate was awarded, and the Committee recommended this beautiful collection to the Council for a medal, which was granted. Plants of *Ancula japonica* bearing bright red berries were exhibited from the garden, and also the fine specimen of *Musa coccinea* so much admired at the last meeting. Cut specimens of that exquisitely scented winter-flowering shrub, *Chimonanthus fragrans*, and the variety *C. fragrans grandiflorus*, were sent from the gardens at Chiswick, where it is grown under a south wall. These flowers proved very attractive, and were eagerly sought after by the ladies and Fellows present.

Thus terminated the last meeting of the Floral Committee for 1865. Of the success and popularity of these meetings there can be no doubt. They have been well attended, and the interesting plants exhibited have never been surpassed. Through the liberality and courtesy of the Fellows, both amateurs and nurserymen, plants have this year been brought before the public which were probably unknown to many. The number of certificates awarded has exceeded that of any previous year, and valuable new plants and florists' flowers of the highest merit have been added to the lists of those already known. We sincerely hope that these meetings will still continue to be as well sup-

ported during the next year; and that Fellows and others possessing plants, however insignificant in their own estimation, if they display any extraordinary feature or character, will kindly send them to these meetings; and most especially is it to be desired that when improvements have been made in any seedling florists' flower by hybridisation, the older or parent plants should be sent for comparison. It is not always an easy matter to carry in the mind's eye the flower on which an improvement is said to have been made. It is the earnest wish of the Committee that justice should always be done. That the awards should satisfy every one is not to be expected, and it is only fair to ask that credit be given for integrity of purpose in all the decisions. It was with the greatest satisfaction and pleasure that we heard from the Chairman at the meeting, W. W. Saunders, Esq., that the Council had that day determined on establishing another medal, to be used solely at these meetings, and to be awarded either to new plants of first-class excellence or collections of plants. The value of this medal will be in no slight degree enhanced by the name which it is to bear. It is to be called the Lindleyan medal—an appropriate compliment to the memory of one who held the interest of the Society so much at heart. Mr. Veitch will have the honour of receiving the first Lindleyan medal that is struck for his superb collection of plants exhibited this day. We cannot omit to notice the interest that is so frequently expressed in the pleasant and easily understood remarks made by the Rev. M. J. Berkeley on the new and curious plants and fruits exhibited. The objection too frequently made to botanical study is the difficulty of mastering the terms used by botanists. Science surely never loses any of its interest from simplicity of language. It is very obvious, that the more attractive the study of plants can be made by divesting it of difficult terms the more numerous will be its admirers and followers. On the other papers which have been read at these meetings we need not comment, they have already been noticed in this Journal. It remains, then, for us to express an earnest hope that every one interested in horticulture, whether a Fellow of the Society or not, should endeavour to promote the Society's object in making these meetings attractive and successful, and to keep alive and active that work which is going on, small and unimportant as it may seem to some, but which the Council most earnestly desire this Committee should be able to carry on with credit to the Royal Horticultural Society.

**FRUIT COMMITTEE.**—G. T. Wilson, Esq., F.R.S., in the chair. The only fruit placed on the table consisted of twenty-one dishes of Apples and nineteen of Pears, from M. Capeinick, of Ghent; Tangierine Oranges from Messrs. Rivers & Son; and from the Chairman some fine Chaudmont Pears, the produce of a pot tree grown in an orchard-house, and moved out of doors to ripen its fruit. All of the above subjects had previously appeared at the Fruit Show in the previous week. No certificates were awarded at this meeting.

**SCIENTIFIC MEETING.**—W. Wilson Saunders, Esq., F.R.S., in the chair. The Chairman having announced a donation of books to the library which the Society is endeavouring to form, the Rev. Joshua Dix stated that the Floral Committee had given a special certificate for Mr. Veitch's fine exhibition, and had further recommended it to the Council for a medal. To meet this and similar cases the Council had granted a new medal to bear Dr. Lindley's name. Mr. Dix concluded by thanking the exhibitors at the Tuesday meetings, and trusted that these, next year, would be equally well, if not better, supported.

Mr. Wilson Saunders said he had to state on the part of the Council that, with the view of bringing forward really valuable things, it had been agreed to have a new medal struck, which should bear the name of one who had done so much for the Society, and whose loss they had so lately to lament. It would, accordingly, be called the Lindley medal, and would be next in value to the gold Banksian. It was always to be given as a medal, and for things shown at Tuesday meetings only. These were now over for the present year, but they would be resumed in January, when he trusted they would not be less appreciated by the Fellows than they had been. Mr. Saunders concluded by urging every one possessing subjects, whether remarkable for novelty, interest, or beauty, to send them to the Tuesday meetings, and so add to the interest and utility of these.

The Rev. M. J. Berkeley remarked that one of the *Odontoglossums* shown by Mr. Robson, gardener to G. Cooper, Esq., had some resemblance to *O. Pescatorei*, a species belonging to the same category as *O. pulchellum*, and membranaceum, all three of which have a single lobe on each side of the column, but in Mr. Robson's *Odontoglossum* the column is fringed. With regard to *Poinsettia pulcherrima*, of which some plants were shown, Mr. Berkeley observed that it was not so much cultivated as so showy and effective a plant deserved to be. Mr. Berkeley then exhibited a specimen of *Libocedrus decurrens* (Torrey), bearing fruit, and which came from the garden of the Marquis of Huntly at Orten Longueville. This *Libocedrus* was originally discovered by Colonel Fremont, the great traveller and explorer, who had made considerable additions to the flora of North America. It there formed a magnificent tree 120 feet in height, with a stem 7 feet in diameter. It seems, added Mr. Berkeley, perfectly hardy in this country. The tree from which the specimen shown had been taken was covered with fruit, and he trusted it would ripen seeds next year.

Mr. Wilson Saunders (the Chairman), said that before separating, he wished to draw attention to *Chimonanthus fragrans*, of which numerous flowering shoots came from the Society's garden. The plant was difficult to propagate from cuttings, and never seeded in this



country. It would be interesting, therefore, to know how the variety *grandiflorus* had originated whether a sport or seedling. It was a great advance on the comparatively small greyish-flowered species, and that knowledge being obtained, a yet greater advance in the size of the flower might be obtained. Mr. Saunders concluded by intimating that the *Chimonanthus* flowers were at the service of the ladies.

### CYCLAMENS.

I AM agreeably surprised to find a communication from Mr. J. Atkins, in the *Journal* of November 28th, page 411. I wrote of him as "the late" purely from misadventure; it occurred to me at the time I wrote the paper on Cyclamens, that I had heard him spoken of as the "late," which I now understand was not intended to mean that he was not in the "land of the living," but not the same enthusiastic raiser and grower of Cyclamens as in former times. Viewed in that light, I think many who having a talent do not exercise it, or allow it to lie hid, might to advantage be set down as "late," if by so doing we could induce them to yield it up with interest, as Mr. Atkins has done. I am, indeed, glad to find Mr. Atkins still a grower of Cyclamens, and that he may long enjoy in health his favourites, is, I beg to assure him, the only sentiment I have towards him, and every other grower of Cyclamens, whether differing from, or agreeing with me, in opinion. Whilst thanking Mr. Atkins for his favouring us with the account of his experience of *C. repandum*, I cannot but express my regret at his leaving to "a more able hand," the penning a few remarks on my paper, differing very materially from me as Mr. Atkins does in some points. I really do not know who can be "a more able hand" than the raiser of *Cyclamen Atkinsi*, a hybridiser (and the only successful one), a raiser, and grower of Cyclamens for many years. I hope Mr. Atkins will reconsider his decision, and favour us with his experience, as also that to which he alludes.

I am glad to find that Mr. Atkins and I are agreed as to *Cyclamen odoratum*, which, as I have seen it, is nothing more nor less than *C. europæum album*, there being no good white form of *C. europæum*, but a very pale form passes under that name, and is identical with *C. odoratum*. There is a variety of *C. persicum*, called *C. persicum odoratum*, which has white petals dashed with pink; but no one could possibly confound one with the other, as they differ so very materially in foliage and time of flowering. As to *C. græcum*, what is it but a form of *C. europæum*, and what are all the round or orbicular-leaved Cyclamens but varieties of *C. coum*? *C. coum* may be, and I am pretty nearly certain will be, at no distant day, the only true species of the orbicular-leaved section; *C. coum vernum* being nothing more than the first natural remove from *C. coum*, indebted to some variegated-leaved kind for its marking on the leaves. After it would come *C. europæum* as *C. coum europæum*, and its white form as *C. coum europæum pyrenaicum odoratum*, or Sweet European Cyclamen from the Pyrenees; *C. græcum* being neither more nor less than a deeper red form of *C. coum europæum*, which might be distinguished from the others as *C. coum europæum græcum*. I am certain when Cyclamens come to be botanically sifted, that the many differences of colour and time of flowering in the orbicular-leaved section of Cyclamens will not be regarded as real distinctions. Culturally the kinds differ widely, and that is enough for me, only it would be well if something like accuracy were attainable in Cyclamen nomenclature.

"W. X. W." lays me under a debt of gratitude to him. I have perused his article, and beg to thank him for it. I may tell him that from what we see of other bulbous plants, it was but natural that he should find the corms of Cyclamens buried under from 4 to 6 inches of light soil. No one would think of growing Cyclamens as hardy plants with the corms exposed, any more than of planting *Hyacinthus*, *Tulips*, &c., in the open garden, with the bulbs only half buried in the soil, but on the contrary they would be covered with 2 or 3 inches of soil, to protect the roots from the cold of winter, the heat of summer, and the atmospheric influences at all seasons. We all know, however, that we do plant many bulbs with the crown level with the rim of the pot, and the bulbs only half buried in the soil, and were we to bury them from 4 to 6 inches (I have found none of our hardy bulbous plants buried so deeply) below the rim of the pot, the roots would have very little soil indeed to grow in, whilst by only half burying the bulbs double the amount of feeding ground for the roots is obtained.

That it is necessary that the corms of Cyclamens should be covered with soil is evident from the leaves, and especially the

flower-stalks, hiding themselves in the soil for a while, even when the corms are only half buried, appearing again at some distance from the crown, and forming a circle round it first of foliage, and then of flowers. To argue that because some Cyclamens will bury their flower-stalks in the soil, all ought to be covered with soil, is going a little too far without proof or warranty for the practice. Imitating Nature sounds well. It is little carried out in practice. Growing a bulb in the open air is one thing, under protection another. It is necessary, if they are intended to live, to say nothing of thriving, that the corms of all hardy Cyclamens should be buried 3 or 4 inches in light, friable soil; and also in growing some of them in pots or pans for the corms to be covered with soil; for it is their nature not for the leaves and flowers to rise directly from the root, but to grow horizontally from the crown of the corms beneath the soil, and appear at some distance from the place whence they take their rise, or where the corm is situated. Leaves and flower-stalks have alike this tendency to run out horizontally from the corm under the soil, the latter giving themselves a twist, and sending up the flower-bud directly towards the zenith, remaining until the blooming is past, when the pod seeks its native earth, striving hard to bury itself, which it sometimes, but not always, does. It remains half hidden until the seed is ripe, when the pod opens, and the seeds are thrown out, not falling, for the pod opens at its highest part, appearing like a cup with the seed in it. All the Cyclamens taking after *C. coum* have this peculiarity, and this is one of the chief reasons why *coum* cannot but be accepted as the type of the Cyclamens with spiral, or corkscrew, leaf and flower-stems just as *C. persicum* is the type of those whose leaves and flowers rise directly from the root or corm. All the Cyclamens taking after *C. coum* require to be buried in the soil, and, if grown in pots or pans, it is sufficient to cover the corm half an inch, and not more than an inch, when they will do just as well as if buried 2 or 3 inches as Mr. D. Stewart says, 3 or 4 inches as Mr. Atkins says, or from 4 to 6 inches as "W. X. W." states he found them growing wild. I have grown them in this way successfully, more so than when the corms were placed deeper, or very little above the drainage. Planting so deeply as this in pots or pans is very injurious, and the leaves and flowers will be poor in consequence; for Cyclamens, even those that require to be buried in the soil, root from the lower part of the corm, sending their thick wiry roots far lower than the depth of the deepest of our bulb-pots, and never upwards, so that if not planted well up in a pot or pan, they might as well not be planted at all, as no amount of soil above the corms compensates for the lack of that below them. "W. X. W.'s" remarks were, I am sure, never intended to apply to plants in pots, but to those in the open ground, for he concludes by hints as to their culture in pans, with which I agree, only the mound of earth above the corms would be of no practical use, for instead of the leaves pushing through it they would come through the sides of the mound, unless those kinds whose leaves and flowers rise directly from the corm were planted, and for such I do not think this a suitable mode of culture. These (of which *Cyclamen neapolitanum* and *C. persicum* are the type) will do just as well with the soil level over them, and, if grown in pots or pans, it is enough if the corms are placed with their crowns level with the surface, or even but half buried, for, from the continual wetting of the surface, many of the flowers will suffer.

Though "W. X. W.'s" notes are very interesting and valuable, they do not afford information on one point, which I hope he will not think it troublesome in me to ask him to furnish. I allude to his making no mention of the kinds. *C. neapolitanum* would be over, I fancy, when he was in Sicily last spring. What could it be but *C. coum*? for *C. repandum* is nowhere found that I know of except in Greece. In Syria he would probably find *C. persicum*; *C. europæum* he would not, of course, see anything of, but "W. X. W." best knows. Would he kindly give the above information?

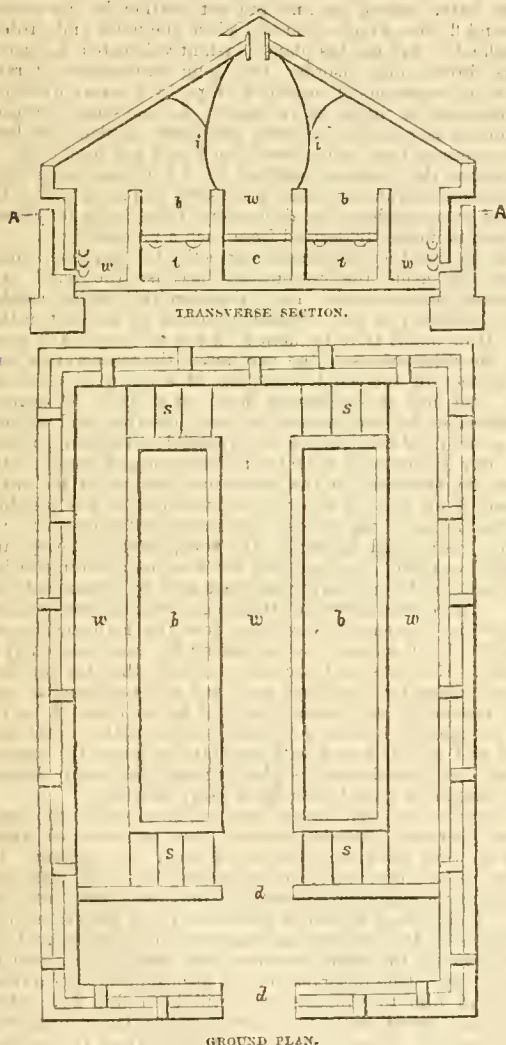
Mr. D. Stewart confirms "W. X. W.'s" observation, having lately visited Corsica, where he found Cyclamens covered 2 or 3 inches deep with soil composed of decayed leaves. That is the kind of soil to cover Cyclamens with—something rich and light through which they can run and push their leaves and flowers. Mr. Stewart does not name the kind. From the description of the root or corm it belongs to any of the *C. coum* family. Our correspondent is right—"Cyclamens would do well in similar situations on a south bank in any of our southern counties," to which I would add, avoiding *C. persicum*, and if the bank were partially shaded from the mid-day sun.



Thanking your correspondents for their interesting and valuable communications, I may, in conclusion, state that I am anxious to obtain as many of the Cyclamen family as possible in order to ascertain what constitute their real differences, any one, therefore, having any of the species to spare will confer a favour by sending them to me.—G. ABBEY.

### A WINTER CUCUMBER-HOUSE.

It becomes every man to advance his own interest in a proper way, and also to lend a hand to his neighbours if necessary, and especially to such of them as are of his own calling. It sometimes happens that rendering assistance to one is injurious to another; but gardeners have a right to study their own interests, and to make known the disadvantages under which they labour in some places, and often through the mis-calculation of others.



the requirements of the house, and being perfectly satisfied as to the expense, he orders the builder to erect the house as soon as possible, perhaps at a specified time. Almost before the gardener knows what they are about the house is half built; he does not approve of it, it is deficient in many things that are necessary to insure success, but all there is left for him to do, is to try and make the best of a badly-adapted house, and one that the employer expects a speedy return from.

For instance: I will take it to be a winter Cucumber-house, a lean-to with the roof at about an angle of 35°, a walk 2 feet wide at the back, a bed 5 feet wide, no tank to produce vapour, not sufficient hot-water pipes to heat the house, a heavy, clumsy, wooden trellis to tie the plants to, and sufficient to prevent these from ever enjoying the full rays of the sun. With such a house a gardener can never please himself nor satisfy his master. I have seen more than one of the above description, or very nearly so. The annoyance arising from such a result could easily be avoided at the beginning; by consulting the gardener and allowing him a little of his own way to draw a plan of a house that would suit. He might then show the plan to his employer and explain it, and if approved of, or if there should be any alterations required they could be easily done, then submit it to the builder and make the best arrangement with him. It is possible that the house would cost a trifle more than that which the builder might propose; but that would be only a penny lost and eventually a pound gained, besides the pleasure that a gardener would derive from being successful with a house of his own choice.

As I am writing this it has occurred to me, that if the correspondents of this Journal would oblige by giving us more generally the dimensions of certain houses, where they describe the fruit as being good and of first-rate quality, it would give others more confidence to undertake the construction of, perhaps, a similar house, or houses. To suit the thought, I send a drawing of a winter Cucumber-house that was erected at Holkham, the seat of the Earl of Leicester, four years ago; it answered very well. I have endeavoured as well as I can recollect, to show how the walls are built. In the centre is a hollow chamber, as shown in the transverse section of the house; a little above the ground line, A A, are holes where the air passes in, and it goes down the chamber and comes in contact with the lower pipe, so as to become of the same temperature as the house before reaching the plants. The ground plan shows how the walls are tied. The space between the two outside lines and the two inside lines represents the hollow chamber, the cross lines represent the bricks that unite the two sides together. d, d Represent two doors, the inner d being a door and a glass partition, so that any one going in could close the outer door before opening the other, thereby excluding all cold draughts, which are very injurious. There are three four-inch pipes all round the house, two under each bed, and flow and return pipes in the chamber under the centre walk. The pipes are represented in their respective places by half-circles; b, beds; w, walks; t, tanks; s, steps, going down to the side walks; c, chamber for the flow and return pipes; i, i, are two iron stays to support the centre of the roof. At the top, air can be given, as shown, by the lids which rise up and down at pleasure by the aid of a lever; also, the air-holes in the sides can be closed by a slide-board.—M. O'DONNELL.

### A VINEYARD UNDER GLASS AND COIL PLANTING.

IN No. 235, a correspondent has described his method of growing Vines planted in the area of his house, leaving the roof clear. As I understood him, he does not train his Vines to upright rods or stakes, but cultivates them as bushes. The method of planting Vines in the border of a house and training them to stakes, as is done in the gardens of the south of France, is first given in the eighth edition of the "Orchard-House." I had then well ascertained its feasibility by planting a few Vines in one of my houses, and then the idea slumbered. Last spring, on learning from one of my friends the great delight his vineyard under glass had given him, I devoted a span-roofed house, 20 feet long and 14 feet wide, to this purpose, and from the progress the Vines have made, and the perfect way in which all kinds of Grapes, including the Frontignans, ripened their fruit, I prophesy that houses planted after this method will one day be very popular.

I divided my house thus—in the centre I made my path, 30 inches wide, leaving a border on each side 5 feet 9 inches

It frequently happens, and especially in small places, that when a gentleman has a glass house to put up, perhaps a greenhouse, or a forcing-house, he speaks to his gardener about it, or it may be that it is at the suggestion of the gardener that he wishes to build the house. However, a horticultural builder is sent for to see what can be done and to specify his terms. He speaks to the gentleman about the affair, and explains everything in his own way; the gentleman, perhaps, does not know what sort of a house is absolutely indispensable for his purpose, does not take the trouble to consult his gardener about it, but will take for granted everything the builder says about

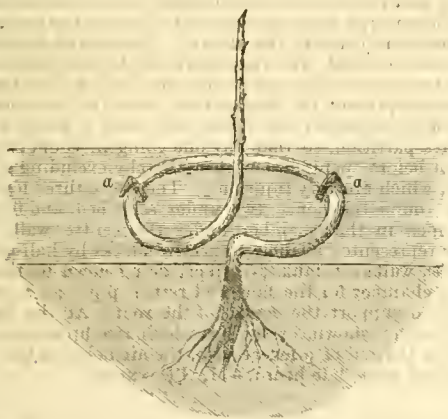


in width. These were both dressed with rotten manure and half-inch bones, and then trenched 2 feet in depth, mixing the dressing with the soil. Wishing for immediate effect, and having plenty of young Vines, I planted twenty on each side—forty in all. In a few years they will, probably, be too much crowded; I shall then remove some of them. For those not wishing to do this, fifteen Vines in each border would be enough. The great recommendation of this mode of planting Vines in a house is the pleasure derived from being able to walk among them to prune, pinch, and direct their shoots, and gather their fruit.

In the house of a friend, which was devoted to the culture of Muscat Grapes, and forced, I once saw some Vines trained to perpendicular iron rods which reached to the top of the house—about 12 feet. They were full of fine bunches from bottom to top. He mentioned the great pleasure he derived from their culture, and on my inquiring if the lower spurs broke kindly, he said that they never failed, but that he took the precaution of detaching the Vines from the rods and placing them in a horizontal position till their shoots were 2 inches long. With this system of growing Grapes it is necessary; it is also recommended by some authors to be practised with Vines trained to the roof.

I have been tempted to advert to this method of growing Grapes to introduce a new (?) method of planting Vines, recently communicated to me by a very old French cultivator and friend. It is based on such sound principles, that although it may be so old as to be almost ridiculous in me to publish it, still I will risk it.

Presuming that your Vine, as usual in this country, has a single rod of a length of from 6 to 7 feet, you must cut out all the buds from the bottom to 2½ feet up the stem; then, after planting your Vine in the usual way, make a circular furrow 2 inches deep to receive the coil, as in the annexed figure, fasten the coil to the bottom of the furrow with two hooked pegs, *a a*, cover it with soil well pressed down, fasten the upright shoot to the stake, and the work is done. The surface of the soil over the coil should be covered with some rotten manure, 10 inches in depth, to encourage the buried part of the stem to emit roots rapidly.



A coil 9 inches in diameter will take 2½ feet of stem to make it. A coil 10 inches, and one 12 inches in diameter, will take respectively 3 feet, and about 3½ feet of stem. So that in planting a fine cane from 6 to 7 feet in length you may coil and bury half its length instead of "cutting it down," and thus throwing away that part of it on which the buds are most highly developed. In the pot culture of Vines, a coil just inside the rim of the pot covered with a rich compost, would give much vigour to the plant and enable it to carry more bunches.

The rationale of this simple method of planting a Vine is, that by merely giving it a large rooting surface a vastly increased vigour of growth is promoted; the coiling, as is found in twisting a layer in nurseries, inducing rooting very rapidly, so that a Vine in a very early stage of its growth finds abundance of food. It is not only to Vines planted in pots, and *à la* "vineyard under glass," that this mode of planting may be applied, there is no doubt that it will give increased vigour to Vines planted in the usual way to be trained under the roof. My friend was very eloquent when telling me the effects of this

coil-planting in his garden in France, and I feel quite assured that no hazard will be incurred by our adopting it in England.

THOS. RAYERS.

## WEATHER WISDOM.

How many persons there are who would like to know the probable weather, perhaps only for one day, it may be for a few hours, is a statement which I think will be conceded by all to be true; but how few there are who try to attain that object by the means which have been placed within their reach by the steady advance of science. Many, many years elapsed before the sailor would place the slightest reliance on the fluctuations of the barometer; even now there are found many persons who cavil at that instrument, deny its utility, and totally disregard its movements, solely, I believe, because when rain has descended their barometer indicated "set fair" or *vice versa*. Now, not only to the mariner ought the barometer to become a familiar instrument, but also to the gardener. Does not the latter depend on fine and wet weather for the various crops and flowers which cover and adorn the fields and gardens of England? Are not his plans constantly defeated, his calculations thrown into disorder, by a long continuance of rain, and his anticipations of beautiful crops by a severe drought? Can this state of things be reversed? In one sense, certainly not; but it is possible for every intelligent gardener to have at his command an instrument which will tell him from its fluctuations the probable weather for a few succeeding days, and such an instrument would, I am sure, be placed within the reach of every gardener by all masters if the latter only knew the benefits indirectly derived from such a proceeding.

Now, to use the instrument correctly, the gardener must entirely lay aside the notion that because the hand in a barometer points towards "fair," therefore the coming weather must necessarily be fair. Weather cannot be forecast in that way. How ought it to be done? I will tell you. You must study the fluctuations of the barometer, the temperature, and the changes of the wind, every day at some fixed time, say 9 A.M., and note these changes down on a chart. A chart is indispensable, for the memory is very defective, and without such an artificial aid it would be impossible to remember from day to day the different heights of the column of mercury, the various temperatures, or the successive changes of the wind. A steady rising glass is as a rule an indication of fine weather, and a falling one of the reverse. Constant oscillations—i.e., the mercury rising and falling in the tube, foretell stormy and unsettled weather. Any one can see whether a barometer has been rising or falling during the past days by reference to his chart. There is no expense attending such observations, and the gain is immense. Now, how does the gardener benefit himself? I will suppose he is waiting for rain previously to planting. He looks at his chart; he finds that the mercury has been rising for some days past, and still continues to rise. In all probability he knows there will be no rain—I use the word probability, because I am sure as long as this world lasts no one will be able to tell with absolute certainty the coming weather—and he defers his planting until the steady descent of the barometer gives him hope of rainy weather.

It seems to me that, by the means placed within the reach of most persons, probable weather can be reckoned upon, and with that knowledge the world must rest content. By degrees, as the observer gains experience, he will note how the barometer has been affected by previous gales, frost, or snow. I admit that without a barometer many are exceedingly weatherwise. Persons who are constantly in the open air form an estimate of the future weather with rare ability, each in his own way. One observes certain atmospheric appearances which lead him to suppose there will be a fine day; while another lays great stress on a change of weather coming with the new moon. Some foretell cold weather from the appearance of particular birds before winter; and others, again, prophesy bad weather from rainbows, halos round the sun and moon, the "backing" of the wind, or the twinkling of stars. Some note the peculiar habits of different animals before rain; whilst meteors and comets are supposed by others to affect our climate for the time. Now these weather-predicting persons should not be despised, but I would say to them, "A barometer will make you all-powerful."

These few remarks would not be complete unless, in concluding, I made mention of the dry-and-wet-bulb thermometer as a great and necessary aid to the barometer in estimating probable weather. By its help a knowledge of the moisture in



the atmosphere is obtained. Many and various are the instruments in use amongst scientific men by which a nearer approximation to probable weather can be gained; but for general out-door purposes an observer may rest content if he note down the daily readings of the dry-and-wet-bulb thermometer, the way of the wind, and the rise and fall of the barometer. Let him always remember these two old sayings, the one—

"Long foretold, long last;  
Short notice, soon past."

The other—

"When the wind changes against the sun,  
Trust it not, for back it will run."

—X., Surrey.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

In consequence of the mildness of the season little should now remain to be done in this department. As the ground is cleared of the vegetables now in season it should be dug, so as to be ready for sowing in spring. *Cauliflowers*, during the present very mild weather the glasses should be left off night and day to prevent drawing; divest the plants of dead leaves, and look frequently for slugs. *Celery*, as it still continues to grow vigorously it will be necessary to earth it up frequently, so that whenever frost may set in it will not be injured so much as it otherwise would. *Cucumbers*, continue to pay every attention to those in houses; above all, keep them free from insects, as on this depends in a great measure their well-doing at the present season; take care that they are not over-watered; if they have a good body of soil to grow in they will want but very little. *Herbs* may be taken up, and planted in boxes or pots, and introduced into the forcing-house as wanted for use. *Lettuce*, any young plants that may be in frames should have the glasses left off day and night during this mild weather; watch narrowly for slugs, as they are particularly fond of this plant. *Mushrooms*, horse-droppings should now be saved for spring beds; this is the best season for saving them, as horses usually have more dry food than during the summer. *Rhubarb*, keep up a succession of this most useful vegetable by potting old roots, and introducing them into a heat of about 60°.

### FRUIT GARDEN.

Prune Gooseberries, Currants, and Raspberries in open weather. When frost sets in lay a coat of manure, say 3 inches, round every bush. Where the Gooseberry and Currant bushes are old, and covered with moss, a good dredging of powdered quicklime put on when the bark is moist will entirely destroy it, rendering the stems clean and the bark healthy.

### FLOWER GARDEN.

Every advantage of the present favourable weather should be taken for transplanting trees, shrubs, &c. See that all the principal and choice plants in this department have sufficient scope to develop their true and natural characters. There are few parts of a garden more ornamental than a well-regulated and well-arranged shrubbery, where every plant, from the largest to the smallest, has sufficient room to form perfect specimens. Collections of shrubby plants appear to receive much less attention than their merits entitle them to.

### GREENHOUSE AND CONSERVATORY.

The weather has been so highly favourable for hardwooded plants that many of them are growing as freely at the present time as if it were September. As this young growth will be found very tender, abundance of air must be given to the plants, and great precautions must be taken against the Ice King stealing a march, as a slight frost in the present state of the young wood would do irretrievable injury. While, however, you guard against frost, take care also to avoid overheating the houses, and give all the air possible at all times. Water cautiously and in the morning, but take equal care not to allow any plant to suffer from the want of that element. Look well to growing plants, such as *Leschenaultias*, *Pimeleas*, &c. At this season every effort should be exerted to keep up a good display of bloom in the conservatory, for this house will now be used much more than when the weather is favourable for out-door exercise; its inmates, if attractive, will, therefore, now be much more valued than they would at any other period, and on that account every possible care and forethought should be exercised, so as to secure a good supply of plants in bloom during winter and early spring. Azaleas which set their buds will soon come into flower, if placed in a warm moist temperature, and some of the early-blooming *Rhododendrons* require

very little forcing to bring them into blossom at any time after this season; therefore, where there is a good stock of these, and of Belgian and other hardy Azaleas, well set for bloom, a portion of the plants should be placed in heat at intervals of about three weeks, and as they are very showy and last long in bloom, they will be invaluable. These, together with *Camellias*, *Heaths*, *Epacrises*, *Acacias*, *Daphnes*, *Gesneras*, *Cyclamens*, *Cytisuses*, Chinese *Primroses*, *Cinerarias*, *Mignonette*, tree *Violets*, and other things which bloom naturally in winter will afford a good display.

### STOVE.

Here all is still and quiet. Keep a moderate heat of from 50° to 60°, and give plenty of air. The *Ixoras* should be elevated near the glass to set their bloom, and have plenty of air at all times. Keep them comparatively dry. *Stephanotis*, *Allamanda*, &c., may be potted and trained preparatory to starting after the new year, and the staking of all specimen plants must be proceeded with as fast as possible. Cut down *Clerodendrons* to the lowest eye so as to secure bushy specimens with the pots covered with foliage, and when they fairly start into growth the balls should be reduced sufficiently to allow of giving a good shift of fresh soil without increasing the size of the pots. A few of the *Allamandas* may also be pruned and placed in heat, provided the wood is well ripened. Where there is not the convenience of a house that can be kept at a rather high temperature for such plants as it is desirable to push into growth at this early season, they should be placed in a bottom heat of 80° or 85°, which will encourage the roots, and render a high atmospheric temperature, or over-driving the other inmates of the house, less necessary. It will be seen from what little we have said from time to time on the management of *Orchids*, that they are not so difficult to cultivate as is generally considered. A high temperature was supposed necessary for their growth. To prove how erroneous that idea is, we would suggest a friendly visit to some of our most successful neighbours. *Orchids* are a most curious, interesting, and beautiful tribe of plants. Where shall we find any other plants continuing, as they do, in bloom, in many instances for months together, giving out at the same time such a profusion of scent, filling the air of the house with the most delightful odours, again representing, as they do, in their forms, such a variety of insects, birds, fishes, reptiles, beasts, &c.? Then see how odd and fantastically they grow; and lastly, the exquisite colours of their flowers—tints the most delicate, soft, and lovely, blotches the most gorgeous, of many different colours in the same flower, and all blending together in a manner to excite our admiration.

### FORCING-PIT.

Introduce such plants as are generally used for forcing, especially those which are sweet-scented, as *Lily of the Valley*, *Sweet Briar*, *Lilacs*, *Roses*, and bulbous plants. All forcing plants should be under temporary covering of some kind, an open shed is as good a place as they can be put in, or under the stage of the greenhouse.

### PITS AND FRAMES.

The abundance of light with which the plants in these structures have been favoured (there having been scarcely any need to have recourse to protective measures in the shape of covering), combined with the mild weather, has excited a vigorous growth, and a disposition to grow long and straggling. To counteract this some attention will be required on the part of the cultivator, a stiff dwarf habit is easily obtained by a frequent use of finger and thumb. Avoid watering as much as possible, it is better to let the plants flag a little than to have them too much saturated at the root. *Geraniums* and *Calceolarias* are very liable to become damp and mouldy, remove all mouldy leaves as soon as they are discovered, or they will be certain to contaminate others, and thus spread over the whole pit or frame.—W. KEANE.

## DOINGS OF THE LAST WEEK.

Though the weather has been dry, warm, and pleasant, there has been but little sun, and therefore it has been worse for early forcing than colder and brighter weather. The chief point to be thought of in such dull weather is to keep the temperature correspondingly low, but so as to be safe, and the atmosphere drier than usual to prevent damping. The careful wicking of the watering-pot is now of great importance. The slushing about of water now will be apt to require a week or two of care, to manage things and keep them right afterwards.



It is all very well to wash paths in houses at midsummer, but now as little water as possible should be spilled. If paths in houses must be washed, it should be done with a scrubbing-brush and cloth, and every bit cleaned and dried up as the work goes on; and the water should be as hot as the hands can bear, as the place will dry all the quicker in proportion to the heat of the water. In many cool houses it will be the best plan to brush the paths clean, and then sprinkle them over with dry sand.

#### KITCHEN GARDEN.

Our work was very much a continuation of that detailed last week, only as the dryness continued we took the opportunity to wheel from decayed hotbeds and rubbish heap on ground intended for trenching down for Carrots, and for a fresh piece of Asparagus.

Asparagus, we have not been able to top-dress as yet, but we must get the young part done before frost come, as we notice that the buds are close to the surface. This is partly owing to the mode we have of late years adopted with this crop—that is, growing it on single raised ridges some 20 inches apart, instead of in beds. The ground is well manured and trenched in the usual way, then thrown into little ridges, and the plants placed over them and covered 2 or 3 inches, and in winter, as we can get at them, a little rotten dung is thrown over the ridges. Little trouble is thus given, the produce is generally good, and the roots are more easily taken for forcing than when the plants are grown in beds. However, any plan does well that answers. We like to plant best when the plants are sprung an inch or two, but then care should be taken that the roots are never parched or dried when the planting is going on. We have never seen the necessity for covering Asparagus to any great depth, as the slight dressing of manure, rough, saves the roots; for, if quite exposed, we have seen the buds killed by frost. We are, perhaps, wrong in saying that we have never seen the necessity of deep covering, for three or four times we have had many buds of Asparagus, when in a dormant state, nibbled by mice, and such nibblers would have attacked them less easily if they had been more deeply covered.

Kidney Beans have done pretty well, but some that were planted rather far from the glass in a pit have not done half so well as those grown in pots, and the plants elevated so that the tops were within a few inches of the glass. If those in the pit had been favoured with glass on all sides they would have done better. If there had been a fair amount of sun they would also have succeeded better. They were nothing like a failure, but, merely to secure all the light possible, it is best to have Kidney Beans in pots grown in pits, or, if planted out, the soil should not be more than 18 inches from the glass. In houses where there is front glass, and no shade above, there is no necessity for such nicety. We are thus particular as we have several complaints from young beginners about Beans damping off. Give all the light possible, heat enough to permit of air, and yet keep up a temperature of from 55° at night, to 60° and 65° during the day, and there will be no damping. As we had a little shelf room at liberty, filled it with 48-sized pots, with five or six Beans in a pot. These when up, stopped, and breaking well, will either be planted out or transferred in a piece to larger pots.

All that was said of Cauliflower, salads, Rhubarb now coming in, and Sea-kale, last week, will apply equally well now, only we may mention, that at this season we generally grow our Sea-kale in pots, in the Mushroom-house, not for considering anything about light, as in the case of the Beans, but for regulating the heat and the supply. For instance, if we want the Sea-kale quickly, we plunge the pot in mild fermenting material in the house, and cover with another pot, to keep the heat about the buds. When we do not want it in a hurry, we allow the pots to stand on the path, and insure darkness; and if notwithstanding this little care, it comes quicker than we want it, we move the pots into a colder place, and keep them dark there. When this vegetable is used from November, it requires a great deal of roots to keep up a supply, more room, in fact, in summer, than can well be spared in a small garden, and when the roots are taken up and planted in a bed, there will be a likelihood of having too much at a time, which can be better regulated if the roots are packed nicely and firmly in pots. Of course, the bed-system is quite as good for market, but large quantities at a time of anything should be avoided in a gentleman's garden. Just imagine a large dish of Kidney Beans on the table every day in December, and the Beans would be no more thought of than a dish of Scotch kale. The same would

be the associations of Sea-kale if it made its appearance every day. Even the best things should never be so presented as to produce satiety.

At page 508, second column, there occurs the expression, "Some of these little Turnips keep well in winter." It should have been, "Some of the smaller yellow Turnips keep, &c.," which will make all clear. We are anxious that some of our readers would try the old Yellow Maltese, the Orange Jelly, or Golden Ball, or even the Dutch Yellow, as these to our taste are as good if not richer flavoured than the favourite whites, as the American Red Top, so much run upon, and they would make a variety, and, perhaps, yellow Turnips might thus, from being reported on, come into fashion. We must confess that when we grew them they remained on our hands, or were sent for the animals to eat, and they knew what was good for them.

#### FRUIT GARDEN.

Lots of work to do in pruning, lifting roots, washing walls, and washing trees; but we have been able to do nothing but continue with all departments much the same as noticed last week. The only annoying thing we have met with is finding a shelf of Black Prince Strawberries, swelling freely, which we intended for Christmas or the New Year, pretty well destroyed by an inroad of mice. It was very annoying to find lots cut over, lying in the pots, others on the shelf, and from others where the stalk was not cut the seeds in many cases had been nibbled out, and in that case all chance of swelling was over. Some of the depredators were trapped, and we suspect others were poisoned, as lots of pieces of toast and butter liberally dressed with arsenic were taken quite away, and, we presume, partaken of by them. At this season of the year we would be inclined to look even upon our vermin enemies with something like kindness, and act on the principle of live and let live, if they kept at all within bounds; but such a set-on, and more to gratify their love of mischief than to satisfy any feeling of hunger, was rather too much even for the benevolence of a very patient philosopher. However, we dislike having anything to do with poison in any shape if it can be avoided, and when used every crumb should be carefully looked after in the early morning, so that no other animal may come in contact with any of it. Not a bad plan for putting down such poisoned material is to place the pieces in a garden saucer, with another saucer over it, but kept far enough apart to permit a mouse to enter freely, with a weight on the top one to prevent its being moved. Such a plan would be of no use in the case of the cunning rat, but the mouse will often like it all the better from even the appearance of keeping him from the bait, and cares but little for the taint left behind from the touch of the hand. For temperature of houses see last week. When a temperature of from 60° to 70° is maintained care should be taken, especially in bright weather, to see that the air is moist enough. Of late the air has been moist enough if the temperature ranged from 50° to 60°.

#### ORNAMENTAL DEPARTMENT.

For the management of plants in houses, pits, frames, &c., see last and preceding week's notices. As the weather is again threatening to be dull, and the barometer falling, betokening more wet, took the opportunity of rolling the lawn again to keep down worm heaps and make all smooth, and proceeded with alterations in groundwork, moving and transplanting evergreens, fresh turning discarded clumps, &c. Here we must notice an error in the last line of the first paragraph under the above heading last week; the word "Strawberries" should be "shrubberies." We notice the word, however, chiefly for two purposes: first, because, properly speaking, we never dig among our Strawberries, from the time they are planted until they are trenched down out of sight; and, secondly, for the reminder to say a few words on the digging of shrubberies. Now, we consider careful digging is a good plan for encouraging rapid growth among shrubs fresh planted. As the plants advance and the space becomes filled with roots, the fork will be better for this purpose than the spade, and should be used merely to break the surface where the roots are thick; a rich top-dressing will also greatly encourage growth, and keep out summer's heat and winter's frost. When shrubberies become established, this digging among them is worse than useless. Many of such shrubberies, however, have a border in front of them appropriated to flowers, and of course these borders must be dug, and in such cases the shrubberies, though beautiful in themselves, are less picturesque in outline, and are chiefly regarded as a varied background for showing off the more gay but ephemeral summer plants in front of them. A fine specimen of such shrubberies, but very rich in the variety and goodness of the plants, may be seen at En-



ville. They lend a rich charm to the ribbon-borders in front of them in summer. The only drawback of such a system is that the bare ground in front of such shrubberies in winter detracts from the effect at that season, and the necessity of having the border of a somewhat uniform width, whether bounded by straight or curved lines, just so far lessens the picturesque easy outline of the shrubbery. It is scarcely possible to obtain all advantages from any one system. The culminating point of the ribbon-borders at Enville is their splendid background; but then, to make a new word, you must be more concerned about the floweresque than the picturesque—with the splendour of colour rather than the graceful in outline. Now, on the other hand, when a shrubbery is managed so as to become and be made a prominent feature of itself, as soon as the main plants are established, all nurses should be removed, all straight lines abolished, all digging dispensed with, and grass and moss be allowed to fill up all the openings; the bold outline of a few fine plants in front, the deep and varied recesses, giving the whole an easy, graceful, picturesque effect. One of the finest specimens of this kind of shrubbery may be seen at Oulton Park, forming the boundary of the flower garden there. There is the thicket of fine forest trees, then Evergreen Oaks, &c., with fine specimens of evergreens in front, breaking all stiffness of outline, and charming with its rich picturesqueness. That shrubbery, the using of a spade in which would be an act of Vandalism, we considered to be alike a proof of the good taste of the proprietor, of our late coadjutor Mr. Errington, and of our present friend Mr. Wills. We have often intended to speak of that shrubbery, and of the place in general, before Mr. Wills left it, but a mass of work prevented our describing that and many other places, of which we have copious notes, and can yet bring before the eye of our memory. We have several times alluded to Mr. Wills's ribbon-borders, they only wanted the background to make them perfect. Considering the difficulties of the position, one of the most wonderful sights as respects flowers in summer is the Botanic Garden at Liverpool. The banks and fences come in there at times with good effect as backgrounds. Keeping to the matter of shrubberies, it will now be seen that when used as backgrounds to ribbon-borders, &c., the ground in front of them must be dug and enriched; but when intended to be the chief attraction in themselves, and to produce a pleasing picturesque effect, as soon as the plants are established no spade or fork should ever come near them; and provided a background is maintained, the more single and varied the plants stand the better. Even a few plants in prominent situations will do much to destroy monotony and uniformity, and the more varied the spaces of turf between them the more easy and picturesque will the whole be rendered. The finest taste and the highest art in such circumstances will be used to conceal art by giving free play to the easy and graceful in outline.

We find we must waive, by referring to previous Numbers, what we would have said of moving evergreens, fresh turfing, draining, &c., and would just say a word on *window gardening*. A few small Geraniums, Daphnes, Cytisus, and Cyclamens will be the principal stationary plants, as the Chrysanthemums will now be about over, if they have not been confined to the outside of the window, or against a wall. In the last position they generally bloom splendidly, and with the title of the care that they must have in pots. Whatever plants are grown in the window must now be kept scrupulously clean, leaves and stems washed with a sponge or soft woollen cloth, pots scrubbed, window-sills kept extra clean, and a cloth thrown over all the plants when the room is dusted, or the plants moved out into another place until that needful work is performed. We would especially urge all such little attentions on our young sister friends. In addition to washing with water between 60° and 70°, the water used for the soil should never now be below 60°, and, as stated in previous weeks, should only be given when needed. No water should stand in the saucers now, but if you have any plants like Cinerarias that like a moist cool bottom, place some moss or a fold of woollen cloth in the saucer, and you may keep that damp. Plants in sitting-rooms will want more water than in a cooler place, and will like to have the leaves damped more frequently. The chief charm now will be the bulbs. Snowdrops, Crocus, Hyacinths, Narcissus, and Tulips will now be coming on, and giving fresh pleasure every day. They will all do best kept cool, moderately moist, and dark, until the pots are full of roots; but after that if you wish them to do well, to bloom well, and with bright colours, you cannot give them too much light. In all mild

weather and sunshine keep them as close to the glass as possible, with nothing, at least, to obstruct the light from them. Never place them in the middle of a room, or near a fireplace, even at night, except in very severe weather. Hyacinths, Tulips, and Crocuses will bloom on a chimney-piece, or even on a sideboard, by exhausting all the stored-up energies of the bulb.—R. F.

### TRADE CATALOGUES RECEIVED.

Cartier & Co., 237, 238, and 261, High Holborn, London.—*Gardener's and Farmer's Vade Mecum. Part I., Flower Seeds and Plants. Part II., Vegetable and Agricultural Seeds.*  
Sutton & Sons, Reading.—*List of New Flower Seeds.*

### COVENT GARDEN MARKET.—DECEMBER 22.

As might be expected at this season, more especially as the weather has been so mild, supplies are heavy; but the demand is correspondingly brisk, and quotations, therefore, remain nearly the same as last week. Pines and Grapes are sufficient for the demand, but good dessert Apples are very scarce, and Pears far from abundant. The former chiefly consist of Cockle and Ribston Pippins, Nonpareils, and Court-Pendu-Plat; the latter are the same as enumerated in our last report. Asparagus is unusually good for the season; that from France is also good, but commands from 25s. to 35s. per bundle. In the Potato market consignments are very heavy.

#### FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... $\frac{1}{2}$ sieve	1	6 to 2	6	Melons..... each	3 0 to 5 0
Apricots..... doz.	0	0	0	Mulberries... punnet	0 0 0 0
Cherries..... lb.	0	0	0	Nectarines... doz.	0 0 0 0
Chestnuts..... bush.	8	0	16 0	Oranges..... 109	4 0 10 0
Currents, Red $\frac{1}{2}$ sieve	0	0	0	Peaches..... doz.	4 0 0 0
Black..... doz.	0	0	0	Pears (Kitchen)... doz.	2 0 4 0
Figs..... doz.	0	0	0	dessert..... doz.	1 6 6 0
Filberts..... lb.	0	9	1 0	Pine Apples... lb.	4 0 6 0
Cobs..... 100 lbs.	0	0	16 0	Plums..... $\frac{1}{2}$ sieve	0 0 0 0
Gooseberries... $\frac{1}{2}$ sieve	0	0	0	Quinces..... $\frac{1}{2}$ sieve	0 0 0 0
Grapes, Hambro... lb.	4	0	7 0	Raspberries... lb.	0 0 0 0
Muscats..... lb.	5	0	8 0	Strawberries... lb.	0 0 0 0
Lemons..... 100	6	0	10 0	Walnuts..... bush	14 0 20 0

#### VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... each	0	0 to 0	0	Leeks..... bunch	0 3 to 0 0
Asparagus... bundle	8	0	12 0	Lettuce.... per score	1 0 2 0
Beans Broad... bushel	0	0	0	Mushrooms... pottle	1 6 2 6
Kidney..... 100	0	0	3 0	Mustd. & Cress, punnet	0 2 0 0
Beet, Red..... doz.	2	0	3 0	Onions.... per bushel	3 0 5 0
Broccoli..... bundle	1	0	2 0	pickling.... quart	0 0 0 0
Bruss. Sprouts... $\frac{1}{2}$ sieve	2	0	3 0	Parsley.... $\frac{1}{2}$ sieve	1 0 1 6
Cabbage..... doz.	0	9	1 6	Parsnips.... doz.	1 0 2 0
Capstems..... 100	1	0	2 0	Pears..... quart	0 0 0 0
Carrots..... bunch	0	4	0 8	Potatoes.... bushel	2 6 4 0
Cauliflower..... doz.	3	0	6 0	Kidney..... do.	3 0 4 0
Celery..... bundle	1	0	2 0	Radishes doz. bunches	0 6 1 0
Cucumbers..... each	2	0	3 0	Rhubarb.... bundle	0 0 1 0
pickling.... doz.	0	0	0 0	Savorys..... doz.	0 9 1 6
Endive..... score	1	0	2 0	Sea-kale.... basket	2 0 8 0
Fennel..... bunch	0	3	0 0	Spinach.... bushel	2 0 3 0
Garlic and Shallots, lb.	0	8	0 0	Tomatoes... $\frac{1}{2}$ sieve	0 0 0 0
Herbs..... bunch	0	3	0 0	Turnips.... bunch	0 4 6 0
Horseradish... bundle	2	6	4 0	Vegetable Marrows dz.	0 0 0 0

### TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

APPLES (*A Subscriber*).—Several of the varieties of Apples you mention will be described in the new edition of the "Fruit Manual," now passing through the press. "The Ringer" we do not know.

ADVERTISEMENTS (*J. H. Lock*).—Our charges are published on the first page every week. Write to Mr. F. S. Angel at our office. We cannot refer you to any one whose bees are suffering from dysentery.

GUANO LIQUID MANURE (*F. L.*).—Do not apply it to any plant during winter. As soon as plants begin to grow, and during their growth, is the time for its application. For five postage stamps you can have free by post from our office "Manures, or Muck for the Many."



**GARDEN DESIGNER (J. Young).**—There is no book specially devoted to the subject, nor do we know of any one who supplies them on paper. "Flower Gardening for the Many," which you can have free by post from our office for five stamps, contains a few, and many are scattered throughout our volumes.

**HERRARIUM (A Young Gardener).**—Hogg's "Vegetable Kingdom" will inform you as to the classification. You can have it free by post from our office for 10s. 6d. Thick blotting paper, folio size, is to be preferred for displaying the plants. A drop of spirit of camphor upon each page will check the appearance of insects; renewing the application as the smell of the camphor declines. The book you mention we do not know.

**INSECTS (H. S. Wandswoorth).**—The small grub from your young Apple tree is a newly-hatched caterpillar of the Goat Moth, one of the greatest enemies of fruit trees, as it grows to the length of 3 inches, so get rid of them as soon as you can. Blow tobacco smoke into their burrows, by means of a fumigating bellows, to dislodge them, and try the effect of thrusting a stiff wire up the holes. By no means cut away the injured parts, but you may cover the openings with grafting clay. (C.)—The white powdery objects on the bark of your Beech trees are not American blight, but a small species of *Coccus*, which, if not cleared off, will gradually entirely envelope the stem. Hot water and a soft brush is the best remedy.—W.

**VARIOUS (York).**—The rust in the water from the hot-water pipes will be lessened, and the water rendered softer, by putting an ounce of carbonate of ammonia frequently, say two or three times a week, in the water. Such heated water will rarely be injurious to harders, &c., but it will be dangerous to many tender plants in pots. We consider that heating water by pipes passing through a cistern is better every way than taking the hot water from pipes; though we are obliged to do it often. If you could heat your water without taking it out of the pipes it would be better in all cases for syringing. If you empty the pipes, or nearly so, often, of course all injury from iron in the water will be lessened. We do not think merely a trace of iron injurious. The hard water you will soften easily by adding carbonate of lime, and allowing the water to stand in the sun before using it for syringing. Our water is either so dirty or so hard, that we seldom syringe in consequence, unless when the water is unusually clear. You may add a little lime or chalk to your loam for the trees, but most likely you will find the trees would do well in the loam, especially if you top-dress with a sprinkling of super-phosphate of lime, and that we would like better than the chalk, say a quarter of a pound at a time in a yard of border, repeating the dose in a month or six weeks. We have met with no plants in the fruit way that a little of this does not suit. We admire your *ail desperandum* motto, and hope you will succeed. You must not let your pots be frosted, and the Strawberries when introduced should not be far from the glass. We shall be glad to hear from you on the mode you adopt for the wet and dry bulb, for showing temperature and atmospheric moisture, but our trade is most opposed to all professional secrets, and we generally say to our friends. Take your secrets elsewhere, they would not be safe with us. These measures of humidity and temperature are, however, most useful for the inexperienced, as we know many old gardeners who can tell the heat and the humidity whenever they open the door of a house, and without looking at a thermometer or hygrometer at all. We leave you to decide as to making your plans known. You are quite right to hold and maintain your own views on the utility of sulphur; rightly used, we hold the reverse, but we shall be none the less glad to hear of your mixture that is such a preservative against mice, birds, &c., attacking the buds of fruit trees.

**CUCUMBERS DECAYING (Constant Reader).**—From what you say of the treatment of the Cucumbers, we can come to no conclusion as to the cause of the fruit showing strong, and then beginning to damp off and wither up when 2 or 3 inches from the stalk, unless it be from the roots being kept too hot, or the plants being allowed to show too many fruit. Try what thinning the fruit freely will do; also what keeping the roots cooler will do. We once had a somewhat similar case, and the roots seemed to be moist enough within 6 inches of the surface, but on digging down we found the bottom soil very dry and hot, and when we made holes and put in narrow two-inch-hole drain-tiles and poured in plenty of chilled water they began to swell freely enough. There are things about Cucumbers which no one can understand, for after never having had the least trouble with them for a quarter of a century, they have troubled us a good deal lately, and especially towards autumn. The Vines will take no harm from the asphalt until they swell the buds, but a piece of calico or even straw would have been better.

**MELON AND PROPAGATING-PIT (A. Y. Z.).**—We would proceed thus—in the four-foot space for the bed place two four-inch pipes a couple of inches or so from the floor, and around these pipes and 4 inches over them place clinkers, brickbats, &c., covering all with 1 inch of rough, clean-washed little stones or gravel. Have means of pouring water amongst the gravel as you like, without passing through the soil. Let the soil be about 18 inches thick, and let your wires be a foot from the glass in front, and 18 inches, or at least 15 inches from it at the back, and have two four-inch pipes for top heat. We heated such a place with two three-inch pipes for bottom heat, and two for top heat, but the heat was not enough. We have added one more three-inch pipe; the four-inch ones would have done. Success depends on not having the pipes too hot.

**PLANTING IVY TO COVER TREES (G.).**—The most suitable Ivy to plant is *Isotria helix*, or common tree Ivy. Dig a hole by each tree, at least a yard square and 18 inches deep; fill it up with good rich light loam, or if the soil is of good light quality, mix with it one-fourth of well-rotted manure, and a like quantity of leaf-mould, thus forming a slight mound; level its top and plant, leaving a basin-like hollow to hold water. If the soil is wet and heavy, mix with it one-fourth of brick and lime-rubbish, and a like quantity of leaf-mould. If the trees proposed to be clothed are large, make two holes, and plant two plants of Ivy near each tree next March. The best plants are those which have begun with in pots, such may be had with shoots from 4 to 6 feet long to be given with. Give a good watering after planting, and occasionally during the summer when the weather is dry. Nail up the shoots to the trunk of the trees, directing the young shoots, as they are produced, upwards. It is difficult to say how long the shoots will grow annually, for that depends on how far the trees shade the ground at their base, and keep it dry. We have known them grow 6 feet in a season, whilst in other cases the growth has not been more than half that, and sometimes not more than a foot in length.

**TWENTY ALPINES FOR POTS (Alpine).**—Your pots will answer for alpinos, which we presume you propose to grow without the protection of a frame. Instead of selecting a shady, give preference to a sunny and exposed situation, for these plants do not like a close, soft, or still atmosphere; and as you have no rockwork, raise a mound of coal ashes, in which plunge the pots to the rim terrace-fashion. The pots must be drained to one-third their depth, and be filled to the rim with the compost suitable for each kind, making the surface slightly higher in the centre of the pots. *Aquilegia alpina*, loam of a turfy nature, enriched with one-fourth leaf-mould, and kept moist. It has very large purplish blue flowers with white centres, and grows about a foot high. *Dianthus alpinus*, deep rose spotted crimson; grit, turfy peat, and loam in equal parts, which should be kept wet. It grows but a few inches high. *Thalictrum anemonoides* plenum; peat, loam, and grit kept moist. *Veronica saxatilis*, blue; plant procumbent. Loam and grit in equal parts kept moist. *Phlox Nelsoni*, white; requires peat, loam, and grit, or sand. *Oxalis spiraeoides*, yellow; fine purplish brown leaves. Loam and gravel. *Papaver alpinum*, yellow; peat, loam, and grit kept moist. *Linaria cymbalaria variegata*, fine foliage; loam and grit. *Saxifraga affinis* and *S. palmata*, loam and grit; *S. oppositifolia*, turfy loam and grit, with pieces of rock kept moist. *Silene acaulis*, turfy loam, peat, and grit; *S. alpestris*, and *S. Schaffii*, *Gentiana verna*, blue; loam and grit or gravel. *Draba hecatica*, yellow; loam and grit. *Gnaphalium leontopodium*, two-thirds grit, and one-third sandy peat. *Linum alpinum*, blue; light loam. *Acaena novae-zelandiae*, crimson; sandy loam and peat. *Campanula garganica*, bluish purple; sandy loam and grit. We by no means consider the above the most choice of alpinos, but such as would suit your purpose, though not, perhaps, your taste; for in this, as in nearly everything else, taste varies considerably. Twenty of the choicest plants for pot culture are *Primula farinosa*, *P. calycina*, *P. ciliata*, *P. minima*, *P. viscosa*, *P. nivalis*, and *P. marginata*; *Androsace ciliata*, *A. chamaejasme*, *A. carnea*, *A. helvetica*, and *A. villosa*; *Pyrola uniflora*, *P. media*, and *P. secunda*; *Eritrichum nazanum*; *Aretia vitaliana*; *Andromeda hypnoides*, *A. tetragona*; and *Eriophorum alpinum*. Spring would be the best time to obtain them; but they could be bought safely at any time, as they are all grown in pots for sale. The present is a good time to obtain them when the weather is mild, for, though hardy, they will not endure moving about during frosty weather. Any of the principal London and provincial nurserymen could supply you with all of them, or obtain them for you. We never recommended dealers.

**RAISING VINES FROM EYES (A Bucks Tree-keeper).**—On the opposite side of the cane to the bad place the knife, and cut slantingly so as to bring it out three-quarters of an inch below the bud. From the point where the first cut was made, make another cut exactly like the first in the reverse direction, and coming out three-quarters of an inch from the other side of the bud. This being done the bud will measure  $\frac{1}{2}$  inch on the side where the eye or bud is situated, and have two sloping cuts at the back. Pot the eyes in January, in pots from 4 to 6 inches in diameter, placing one in each pot. In preparing the pots put a crock over the hole, and a few smaller upon it, and then an inch or so of the roughest parts of the compost. This may consist of rather light loam from rotted turves a year old, which is best, or light brick loam. Fill the pots with this compost to within an inch of the rim, and exactly in the centre of each place an eye, the eye upwards, and flat, pressing it down so that the eye may be level with the soil. Cover with half an inch of fine soil, and give a gentle watering, at once plunge the pots to the rim in a cucumber-frame if you have one, and let them remain there until May, keeping the soil just moist, then remove to the greenhouse. If you have not a hotbed so early, or have one later—say March, keep the pots in the hotbed until the end of May or early in June. In this, or the former case, put the eyes after they have been in the greenhouse a few days into nine-inch pots in the same compost as before, and train the shoots up the roof of the greenhouse, keeping the soil in the pots well supplied with water, never, however, giving any until it is required, at the same time the leaves of the Vines should not be allowed to flag. When the Vines cease growing diminish the supply of water, and withhold it altogether when the leaves fall, and then stand them in a cool place for the winter. If you have no hotbed place the pots in the greenhouse, and keep the soil just moist, giving but little water until the shoots appear. Afterwards they are to be treated in the same way as those in the hotbed. In January cut the young Vines in two to eyes, shift them into nine-inch pots, or of the same size as that in which they were grown in the year before, removing the greater part of the soil, and place them in the greenhouse, from which it is not necessary to remove them in winter if the temperature from fire heat does not exceed 45°. In due time two shoots will spring from the two eyes, make choice of the stronger, and rub off the other. Train that left to the roof, and about 1 foot from the glass, stopping the laterals, as they show, at the first leaf. In June pot the plants into 12 or 15-inch pots, draining well, and when the pots become full of roots, or say in three weeks, water at every alternate watering with liquid manure. Stop the shoot (take out its point), after it has grown 8 feet, and allow the laterals to grow, stopping them, however, at the first leaf, and if they shoot again let them make six or more leaves. Keep well watered up to the time the plants seem to have done growing, and the wood is the thickness of the little finger and turning brown, then less the supply, and leave off watering when the leaves fall, cutting away the laterals by a green as the leaves change colour. The Vines, if you manage them well, will fruit in pots in the following year, or you may plant them out in a border in front of the greenhouse, train the canes to the roof, and have fruit the year after planting. You will find full particulars in the "Vine Manual," which you can have free by post from our office for 2s. 6d. in postage stamps.

**FUMES FROM HOT-WATER PIPES KILLING PLANTS (A Victim, Staplehurst).**—We think, from the way in which your plants are affected, that the pipes have been coated with gas tar, which may easily be detected by the smell of the fumes when the pipes are hot. The fumes from pipes thus coated will kill all the plants in time, unless the pipes are taken out and the tar burned off. We are not sure that this is the cause of the leaves falling and the young growth of the plants being injured, but it is a very likely one. If the pipes were coated with paint or black varnish the fumes would be injurious to vegetation for a time, but you may soon get rid of that by heating the water in them until it boils, and keeping this heat up until the smell disappears, which will be the case in twenty-four hours. Of course you must remove the plants, or give air in proportion to the heat.

**RABBITS BARKING TREES (H. F. E.).**—If you refer to our Number published December 12th, you will see a reply to the same question.



**CONSTRUCTING A COLD PIT (*Inquirer*).**—Your proposed plan of forming the pit is right, only it will be too low at the back for the roof to have sufficient slope. We should advise you to have it 4 feet high at the back, and in front 1 foot 6 inches above the ground level. This would give you 7 feet headroom over the pathway—not too great a height, as you there propose having a Vine, and that must be trained 1 foot from the glass at least—15 inches would be better. In addition to the Vine over the pathway, we would have two others trained lengthwise, one at the back and the other at the front, 1 foot from the back and front wall respectively, and another in the centre, they being planted in a border prepared for them at one or both ends. A ventilator at each end, and two others at the top, will answer; it will suffice if the end openings are a foot square, and the top ones 2 feet by 1 foot. Fruit trees in pots would do, only you must be content with one Vine at back, and have the portion of the front above ground of wood and glass instead of bricks and mortar, and then you might have a row of Peach trees in front, where you propose to keep plants in winter. You cannot have them and the plants, but you could have the Vines and plants. Your proposed heating of the pit by a hotbed at one end, and letting the heat into the pit through drain tiles, will not answer, for it would only warm one end, and the plants at the other would be frozen stiff. A small fireplace, and an equally small flue running along the front, would be the best and most economical mode of heating, and give the most satisfaction. It is worth while considering, before making the pit, whether it would not be better to have it double the width. It would cost little more at first, and no more in fuel annually, and it would certainly afford more than double the gratification.

**CUTTING BACK YOUNG CLIMBING PLANTS (*H. F. Kent*).**—If we understand your letter aright, your stove climbers are trained against upright wires or trellises, and are not intended to cover the roof, which would be much the best place for them. If they are trained a foot from the glass, they need not be cut back until they reach the top of the house, when, the points being taken out, side shoots will come freely, which may be allowed to hang loose or be trained up or down to fill vacant space. If trained against upright trellises, they should be cut back to within 2 feet from the bottom, or, if the trellis is sufficiently wide, train them horizontally, bending the shoots at the extremities of the trellis sideways in serpentine fashion. This will check the sap, and cause them to break all along the shoots, but they will still shoot strongest from the upper part. For ourselves, we should cut them all back in March to 18 inches, or to five or six good eyes, and when the new shoots came, if there was not a sufficient number to cover the trellis, we would take out the points of these shoots at 18 inches to make them branch, and this repeatedly, until the trellis was sufficiently clothed. Serve the *Mandevilla suaveolens* in the same manner, but far better train it to the roof; if cut back, do so in March. Syringe the plant frequently during summer to keep down red spider, directing the force of the water against the under side of the leaves.

**ASPECT FOR VINEY (*J. D.*).**—We would prefer the south-west aspect, and if the wall must not be more than 8 or 10 feet in height, we would prefer the three-quarter span, as then you could have the height at the ridge or apex 2 or 3 feet more, and more direct light besides. For a span-roof, we prefer north-west and south-east, but it is no great matter, only the western sun is always more powerful than the eastern.

**GARDEN PLAN (*Countess of B.*).**—We are reluctantly compelled not to plant plans of gardens, but merely to criticise the proposed planting. We have no doubt that the garden will look very nice on grass, but we cannot help thinking that the beds come too near the house, as there is much less grass there than in other open parts between the beds. Perhaps there are rather too many sharp angles in the beds, too; and sweeping circles out of the sides of hearts, &c., is chiefly useful for enabling one to get easily at the centre of beds, otherwise, when planted, these openings will be little seen. The same will hold true with the starry figure on the right-hand side; but, on the whole, the garden, we have no doubt, will look very well. Contrary to our rules, we will just say what we think would be a pretty arrangement, and we would edge all the beds, so that each bed would be complete in itself. As there are no numbers we will just allude to the centre, and begin with the octagon bed in front of the library. This we would plant with *Tom Thumb* Geraniums, edged with *Centaurea candidissima*. The prince's feather beyond we would plant with white Verbena, or some other white, and edge with Purple King, and the circle beyond with *Bonnie Ben* Geranium, and *Cineraria maritima* for an edging. These three will form the centre of the group. Then beginning next the library again, we find there are four beds on each side of these three centre beds—say two ovals, *Aurea floribunda* *Calceolaria*, edged with *Lobelia speciosa*, and a strip of *Cerastium* next the grass; two hearts, *Heliotrope*, or dwarf *Ageratum*, edged with *Calceolaria* Prince of Orange, yellow; then a pair of three circles joined in one on each side of the prince's feather, *Brilliant* Geranium, bordered with *Pulchella* Verbena, and then two open-centred kidney-shaped ovals, dark purple Verbena, as *Aristo* Improved, edged with variegated *Alyssum*; and so we would go on with the rest, planting so that each bed would contrast softly with those nearest, and yet be distinct and complete in itself. The long narrow ribbon-border of 6 feet should look both ways, and should at least have five rows, as purple, yellow, scarlet, yellow, purple. With a lot wider, or 18 inches more, you could add white, as *Cerastium*, all round,

making seven rows across. The objection to that border is that it is too far from the walk, and has no background, except the chain border a long way off. That chain of thirteen circles being surrounded by gravel, may be planted with every circle different. If all were filled with variegated Geraniums, as yellow-leaved and white-leaved alternately, and banded with blue *Lobelia* and lilac Verbena, or purple, as the *Iresine*, or *Amaranthus*, they would look well—as well as they could do in an isolated position.

**HOTBED FOR CUTTINGS (*F. T. C.*).**—Your pit will require to have the interior taken out, and a bed of hot dung formed 4 feet deep, and if it be made of dung and leaves mixed, it will raise a milder and more lasting heat. The bed should be made high enough to touch the rafters, or level with the top of the frame after it has been well trodden. Put on the lights, and in a week or ten days the heat will have risen and the bed settled. Level the surface, and cover with the bottom of the wood stack, which, though not so good as cocoa-nut refuse, will nevertheless answer, as would sand, sawdust, or ashes. The lights should slope from the back to the front, 1 foot in every yard of width, so that the water may run off and not drip upon the cuttings. The cuttings cannot be too near the glass at first, for the bed will sink, and at no time should they be further from it than 15 or 18 inches. The nearer they are the less they will be drawn. The spaces for linings filled with hot dung will not raise sufficient heat for striking cuttings, but they would serve the purpose for which they were undoubtedly designed, that of maintaining the heat in the bed when it begins to decline. To do this the front lining should be given when the first decline in temperature is noticed, keeping the heating material filled up above the holes in the pit wall, through which the heat will pass into the bed. Take care that the bed is so high inside as to cover the holes, or the heat from the lining will rise in the atmosphere of the frame, and injure, if not kill the cuttings, especially if the steam be at all rank. In ten days or a fortnight the back lining should be made, and this, with the front lining, will keep the heat up for a sufficient length of time to strike three lots of cuttings, they, when struck, being removed to the greenhouse. If the heat of the bed sink too low before you have raised as many cuttings as you wish, take out the front lining before the back lining has become cold, and refill with hot dung, and when this becomes hot renew the back lining. Always keep the lining supplied with litter above the holes, or the heat will escape without heating the bed, and the lining should be piled up against the sides of the frame to give top as well as bottom heat.

**FRUIT GARDEN (*G. Eunting*).**—Your good grass land seems well suited, and situated for such a purpose as that which you propose, but its paying will depend more on the custom you can obtain than on the produce of the land, for some part of it will have to be made ornamental, and be furnished with lawns or tea-houses, trees, shrubs, and flowers. The frontage to the road should be planted with trees and be forced on the interior with shrubs and a border of flowers, and then should come a lawn, level enough and large enough for a croquet ground, which for one set of players the law of the game says should be 110 feet long by 65 feet in width. If it were sufficiently long and wide for two sets all the better, as it could easily be divided by an *Archer-Vite* hedge. Near this ground, which could be used not only for croquet but for bowls and other games, trees should be planted, weeping trees for shade, with seats under them, or if any such trees exist they should be carefully preserved. A belt of trees and shrubs to shut out the fruit garden from the part intended for visitors will be required, and a winding path should go round the pleasure ground, with some seats, lawns, and summer-houses, placed here and there. Remember the more respectably and neatly the place is kept, the more likely is it to be frequented by those who will pay best. An area of half an acre will be necessary, and besides what you may derive from parties playing on the ground, you may make something of the flowers from the borders. We recommend you to grow a quantity of Wallflowers, Stocks, Roses, Pinks, Glove Carnations, and other popular flowers, Sweet Brier, and Thorn. A narrow belt of trees and shrubs may be planted all round the other part of the ground, partly for pleasure and partly for profit, as you could plant them thickly and keep them thinning them out. In front of the belt of trees, none of which should grow larger than a *Thorn* or *Laurumn* (*Lilacs* would pay for cutting), plant a border with flowering shrubs, and edge it with plants that bloom abundantly and are sweet-scented, and do not forget evergreens which are sure to be called for. In front of the border have a walk, and at each corner a summer-house and seats, and on the other side of the walk have a corresponding border of flowers, and at the back of it a row of fruit trees, of which you must grow kinds that ripen in summer. The remainder of the ground we would divide into quarters by a walk through the middle, and another transversely, having a border 4 feet wide on both sides for Strawberries, and a row of fruit trees behind them, consisting of pyramids or bushes of Cherries, Plums, Pears, and Apples. Devote the quarters to Strawberries, Raspberries, Gooseberries, and Currants. Unless you could make sure of a renewal of the lease, it would be well to lay out no more than would repay the outlay. An agreement for either a renewal or a valuation at the expiration of the lease should be entered into before you incur any great expense. With land at £5 per acre, or £2 with house, the ground would pay as a fruit and market garden, and better still as a tea or pleasure garden. The ground will require to be dug or trenched to a depth of 2 feet, digging in the turf, and then you may plant anything in it with every prospect of success.

## METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the four days ending December 20th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Sun. . 17	30.593	30.564	44	35	45	45½	W.	.00	Overcast throughout.
Mon. . 18	30.469	30.364	43	39	45	44½	N.W.	.00	Foggy throughout.
Tues. . 19	30.267	30.149	48	29	45	45	S.E.	.00	Foggy, occasionally a few large drops of rain; very fine; overcast
Wed. . 20	30.224	30.134	54	39	45½	45	S.W.	.01	Drizzly; very fine; foggy at night.
....	..	..	..	..	..	..	..	..	
....	..	..	..	..	..	..	..	..	
....	..	..	..	..	..	..	..	..	
Mean..	30.383	30.303	47.25	33.25	45.12	45.25	....	0.01	

[at night.]



## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

## LABELS FOR EXHIBITION POULTRY.

I FEEL quite certain that the officials of poultry shows have no idea of the inconvenience caused to exhibitors by the delay in sending these labels. On one occasion I received them the morning of the show, and of course it was useless to send my birds, and I claimed the entries. Again: it often happens that our "Fridays" are, like mine, careful over the poultry, but quite ignorant of letters. The exhibitor may be leaving home, and if the labels have not arrived he leaves in some trepidation, fearing that Friday, however willing, may perpetrate some error that ruins all prospect of prize-taking. Even with the late Birmingham Show the labels did not arrive, I think I am correct, until after the original day fixed for the opening. A fortnight, except in the largest shows, appears to me ample time between the closing of entries and the opening of the show. I feel confident it would greatly add to the comfort of exhibitors if the Secretary, immediately on the closing of entries, settled the catalogue, and forwarded the labels. Am I asking too much if I say that in a show of five hundred entries this might be accomplished within four days? It is a duty which has to be performed, and which, when over, must be a relief to the official. Any later entries the Secretary well knows how to add to the list.

Perhaps I am wrong in believing that my brother and sister exhibitors would be glad of an alteration here, and the Committee may solace themselves with this belief. Possibly these few lines may ventilate the subject, but I can say for myself that it has often been an annoyance to—Y. B. A. Z.

## THE POULTRY CLUB AND THE BIRMINGHAM AWARDS.

THE suggestion of "P." in your Number of December 12th, that the Poultry Club should institute a poultry show in opposition to the Bingley Hall Exhibition, together with his liberal offer of support, demand the warmest thanks of all amateurs.

There can be no doubt that very general dissatisfaction as regards the Birmingham awards has long existed; and the manner in which the expressed wishes of numerous exhibitors on the appointment of Judges have invariably been ignored, I may say treated with contempt, is by no means calculated to allay the prevailing distrust. In No. 218 of your New Series, a correspondent writes of Mr. Hewitt, "Almost every show that takes place is judged by him," and urges most earnestly that his name should be added to the list of Birmingham Judges; and you, Messrs. Editors, in a foot note, seconded that proposal, stating emphatically, "We know that the Council of the Birmingham Show would gratify exhibitors generally, and remove much obloquy from themselves, if they added Mr. Hewitt to the Judges of that Show."

Another correspondent, in your columns of the 17th of October, suggests that exhibitors should address a letter to the Council praying them to add Mr. Hewitt's name to the list of Judges. I followed this advice, as, to my certain knowledge, did many others also; but our prayer was not granted, and no reason has been assigned for the refusal. Between January and October of the present year, Mr. Hewitt's name appears as Judge at twenty-one exhibitions of poultry and Pigeons! Assuredly, then, he must be at least as well qualified for the office of Judge as those gentlemen whose names appear on the list of Judges of the Birmingham Show!

But, I think, we have a just right to demand a much larger measure of reform than simply asking the addition of the name of our most popular Judge. What are the facts of the case as regards the judging? At the late Show there were 1675 pens of poultry. These, divided equally between the five Judges, would give 335 pens for each Judge; and supposing the labours of these gentlemen to commence at nine and end at three o'clock, as much of daylight as can be expected during a dark November day, there would remain fifty-five pens for each Judge per hour, or a little more than one minute to decide upon the merits of each pen! Will exhibitors, after paying high entry-fees, submit to be treated thus?

I do not think "P.'s" suggestion, that the members of the Poultry Club should pledge themselves individually not to exhibit at Bingley Hall again, could be carried out, for various

reasons, and, doubtless, there are some who would refuse to pledge themselves; but there can be little doubt that a show at Birmingham, conducted upon sound principles, with a liberal prize list, under the auspices of the Club, and to be held about the same time as, or a little earlier than, the present Bingley Hall Show, would prove a most successful rival. I say Birmingham, because, from its midland position, its railways, &c., it is better adapted for a poultry show, where north and south may meet in friendly competition, than almost any other town.

Allow me in conclusion to suggest to the Committee of the Club, that in carrying out any show upon a large scale:—

1st. A Judge, or Judges if the entries require more than one, be appointed for the several divisions of fowls, as for—1st, Game fowls and Game Bantams of all varieties; 2nd, Spanish; 3rd, Dorkings; 4th, Brahma Pootras and Cochins-Chinas of all varieties; 5th, Hamburgs of all varieties; 6th, for fowls and Bantams of any other variety than those named, &c.

2nd. Let the names of the Judges for each division be published on the schedule, so that an exhibitor may know, before entering his fowls, who will be their Judge.

3rd. Let it also be stated on the schedule as an invariable rule, in no case to be departed from, that the Judges shall not be allowed to see the address cards, nor in any way to ascertain the ownership of the birds.

If the Poultry Club will only act energetically, and take a decided lead in poultry matters, instead of following its hitherto do-nothing policy, it will, doubtless, become a large and flourishing Society, and will obtain the hearty support of all classes of exhibitors.—AN ESSEX CURATE.

## THE NEWPORT (MONMOUTHSHIRE) POULTRY EXHIBITION.

ALTHOUGH many persons expressed their apprehensions that the poultry exhibition held this year at Newport in connection with the agricultural meeting would be a comparative failure, from the fact that the portion of the show devoted exclusively to cattle would be unoccupied on account of the cattle plague, the result proved such forebodings were quite uncalled for. As to the poultry, the entries were as numerous as ever, the competition in most of the classes was really excellent, and the attendance of visitors waiting for the moment of opening to the public was, beyond question, without precedent. The whole Show was speedily crowded, and continued so during the remainder of the day. The general arrangements were exceedingly good, but differed very little from those carried out in former years.

The Game classes were well filled, and the quality of most of the birds was such as to leave a very trifling hope of improvement. Mr. J. H. Williams, of Spring Bank, Welshpool, however, pretty nearly monopolised all the principal Game premiums, by exhibiting fowls not only of very first-class breeds, but also in so faultless a condition, that several of those amateurs who competed with him were perfectly astounded when permitted to test them by hand. Mr. Williams, with Game fowls alone, took not only the silver cup for Game, but also several first prizes, many of his opponents also sending most excellent birds. The single Brown Red Game cock, and the Duckwings exhibited by Mr. Williams, became quite popular favourites at the Newport Show. The Duckwings were the winners of the silver cup for the best pen of any variety of Game exhibited. In *Spanish* fowls, Lord Tredegar's Show, as it is called, was not by any means a meagre one, Mr. Alfred Heath, of Calne, taking the cup, closely pressed by the pen of Mr. George Lamb, of Compton, near Wolverhampton. *Grey Dorkings* were very well represented, and most numerously, a quite new name taking precedence, Mr. Peacey, of Chelworth, Tetbury, Gloucestershire. Singularly enough, although *Grey Dorkings* were so numerous, not even a single pen of White ones was shown. In *Cochins* there were some good Partridge-coloured ones. Some really first-rate White ones were also present; and as to the first-prize Buffs, it would, indeed, be a somewhat difficult task for any one to even imagine a better pen. For the silver cup offered for the best pen exhibited of these popular fowls, irrespective of colour, there was a good competition, though not an extensive entry. A magnificent pen of adult Buffs, the property of that so-long-experienced breeder, Mr. Henry Tomlinson, of Birmingham, proved the plate-winner, and was one of the most marked objects of admiration throughout the whole of the Newport Show. The owner still unhesitatingly declares them to be "by far the best pen he has ever exhibited throughout his whole career," an opinion so generally concurred in by breeders, as to be universally endorsed by those *Cochin* amateurs who examined them as exhibited for the first time at the late Birmingham Show; yet at Bingley Hall, this pen was passed by entirely unnoticed, although a very inferior lot, sent in by the same exhibitor, with no other idea but "for sale," appear in the prize list. At the Newport Show, the *Brahmas* proved far better than have ever been shown in this locality.

In *Hamburgs* there was a good entry, and every variety was well shown. Mr. John Holland, of Worcester, succeeded in taking the silver cup given to the *Hamburgs* generally, with a pen of Silver-



pencilled ones, a variety which, it will be recollected, was so successfully cultivated and improved in the same neighbourhood some few years back by Mr. Archer, and whose strain they strongly resemble. The Golden and also the Silver-spangled Hamburgs shown at Newport were most meritorious. The *Polands*, both Golden and Silver (the class being open to both kinds), were very good; but the Black ones with white crests, although having the like premiums offered exclusively to this breed, brought only a single entry, and as even this pen was not first-rate, a second prize only was awarded. The *Bantam* classes were good, Mr. Davies, of Newport, taking the Bantam silver cup with an excellent pen of Silver-laced Sebrights. This gentleman also took second in Black Bantams with a very good pen, and again exhibited his Birmingham first-prize pen of Blacks. This latter pen was at Newport simply passed over, as, though at Birmingham one of the hens exhibited such a multiplicity of white spots as to cause general remark, a favourable change is now in progress, for at Darlington last week obvious improvement had taken place, an opportune symptom that the last few days have also still further confirmed. Some really good White-bodied Bantams were also successful, and the Game Bantams were well shown. The class for Any other distinct breed was unusually good, the first prize being secured by an excellent pen of Sultans, shown by Mr. Zurborst, of Dublin, in perfect plumage; the other prizes were awarded respectively to La Flèche fowls, Black Hamburgs, Malays, and Indian Game.

The Aylesbury Ducks proved a remarkably fine class, Mrs. Seamons taking her usual post, and Mrs. John Logan, of Newport, proving one of the closest rivals that lady has met with in Aylesburies for some years past. It is also a singular circumstance here worth mentioning, that in a class for Ducks, exhibited exclusively by cottagers, no other variety than Aylesburies was shown, whilst in the extra class for Ducks only the Buenos Ayrean breed put in an appearance.

The selling class was most successful, embracing forty pens, a good many changing hands, as the price was limited to 30s. the pen.

The *Turkeys* and *Geese* were exceedingly fine, and weighty also, the competition being most severe. The Hon. F. C. Morgan, of Rappera Castle, Newport, exhibited one of the finest pens of purely White Turkeys we have seen for years past.

The show of *Pigeons*, though not so numerous as might be expected, was of great merit, a reference to the prize list showing that the competition rested with many of our most noted exhibitors; in fact, it is only very rarely, indeed, that so many pairs of first-rate Pigeons can be seen in so small a collection.

The greatest care was devoted by the Committee to the welfare and comfort of the valuable specimens entrusted to them, and we have great pleasure in stating that not a single case of indisposition occurred throughout the birds exhibited.

**GAME (Black or Brown-breasted Reds).**—First, J. H. Williams, Spring Bank, Welshpool. Second, J. Cocks, Severn Bank Tannery, Worcester. Highly Commended, W. Bradley, Worcester; R. W. King, Wellington, Salop. Commended, R. Sheil, Bassaleg, Newport.

**GAME (Duckwings or other Greys and Blues).**—First and Cup, J. H. Williams, Spring Bank, Welshpool. Second, W. Dunning, Wellington, Salop.

**GAME (Any other variety).**—First and Second, W. Nicholas, Caerphilly, Glamorganshire. Highly Commended, J. Rees, Langstone, Newport.

**SPANISH.**—First and Cup, A. Heath, Calne, Wilts. Second, G. Lamb, Compton, Wolverhampton. Highly Commended, R. H. Nicholas, Newport; J. Smith, Walsall.

**DORKING (Coloured).**—First and Cup, W. R. Peacey, Chelworth, Tetbury, Gloucestershire. Second, R. N. Hooper, Cowbridge. Highly Commended, R. H. Nicholas, Malpas, Newport.

**COCHIN-CHINA (Coloured).**—First and Cup, H. Tomlinson, Balsall Heath Road, Birmingham. Second, Miss J. Milward, Newton St. Loe, Somerset. Commended, Mrs. M. Seamons, Aylesbury.

**COCHIN-CHINA (White).**—First and Second, J. Gardiner, Bristol.

**BRAHMA POOTNA.**—First, J. Hinton, Hinton, near Bath. Second, R. Hon. Lord Tredegar, Tredegar Park, Newport.

**HAMBURGH (Gold-pencilled).**—First, E. Hutton, Pudsey, Leeds. Second, R. H. Nicholas, Malpas, Newport. Commended, J. Stretton, Worcester.

**HAMBURGH (Silver-pencilled).**—Cup, First and Second, J. Holland, Chestnut Walk, Worcester. Highly Commended, R. H. Nicholas, Malpas, Newport; J. Platt, Dean, Bolton, Lancashire.

**HAMBURGH (Gold-spangled).**—First, A. K. Wood, Burnside, Kendal, Westmorland. Second, T. Fletcher, Commissioners' Office, Great Malvern. Commended, J. Hawkins, Newport.

**HAMBURGH (Silver-spangled).**—First, A. K. Wood. Second, T. Davies, Belmont Cottage, Stow Hill, Newport, Monmouthshire. Highly Commended, G. Whitcombe, Kingsholm, Gloucester.

**POLANDS (Black with White Crests).**—First, Withheld. Second, T. Fletcher.

**POLANDS (Gold or Silver).**—First, J. Hinton (Silver). Second, H. B. Sketch, Blaina Iron Works (Golden). Highly Commended, Mrs. Ely, The Poplars, Gregory's Bank, Worcester (Silver).

**BANTAMS (Game).**—First, Rev. A. K. Cornwall, Bencombe, Dursley. Second, R. Tate, Leeds. Highly Commended, T. Davies; R. Tate; W. Bradley, Severn Navigation, Worcester.

**BANTAMS (Black or White, Clean Legged).**—First, E. Cambridge, Stokes Croft Road, Bristol. Second, T. Davies.

**BANTAMS (Any other variety)** First and Cup, T. Davies. Second, Rev. P. W. Storey, Charwellton House, Daventry.

**ANY OTHER DISTINCT BREED.**—First, F. W. Zurborst, Belville, Donnybrook, Dublin (Sultans). Second, E. Pigeon, Lymington, Exeter (La Flèche). Third, R. H. Nicholas, Malpas, Newport (Black Hamburgs). Fourth, J. Hinton (Malays). Fifth, P. P. Cother, Salisbury, Wilts (Indian Game). Highly Commended, E. Phillimore, Cactenham (Malays); R. H. Nicholas (Silkies). Commended, Rev. P. W. Storey (Silky Niggers); G. Corps, Newport (Minors).

**Ducks (Aylesbury).**—First, Mrs. M. Seamons. Second, J. Logan,

Maidee, Newport. Highly Commended, J. Pye, Abergavenny. Mrs. M. Seamons; S. Lang, jun., The Shrubbery, Redland, Bristol. Commended, Right Hon. Lord Tredegar, Tredegar Park.

**Ducks (Rouen).**—First and Second, J. Williams, Goytre, Usk. **GEES.**—First and Second, Mrs. M. Seamons. Commended, R. Rees, Coldbrook Cottage, Abergavenny.

**TURKEYS.**—First, Miss J. Milward, Newton St. Loe, Somerset. Second, S. Lang, jun., The Shrubbery, Redland, Bristol. Highly Commended, Hon. F. C. Morgan, Rappera Castle, Newport; M. A. Horlock, East Vaga, Chelston.

**SELLING CLASS.**—First, J. Gardiner, Bristol (White Cochins). Second, J. Logan (Dorkings). Third, J. Hinton (Brahmas). Highly Commended, F. G. Phillips, Chippingham, Wilts (Golden-pencilled Hamburgs); J. Williams, Goytre, Nantyderry (Dorkings). Commended, J. Hinton, Bath (Silver Polands); J. Logan, Maidee, Newport (Dorkings); J. Williams (Dorkings); R. H. Nicholas, Malpas, Newport (Brahmas); T. Davies, Newport (Silver-spangled Hamburgs); J. Logan (Silver-spangled Hamburgs).

#### SWEEPSTAKES FOR SINGLE COCKS.

**SPANISH.**—Prize, T. Aoe, Ystalyfera, Swansea Valley. Commended, T. Aoe.

**DORKINGS.**—First, Rev. A. K. Cornwall, Bencombe, Dursley. Commended, E. Shaw, Plas Wilnot, Oswestry.

**GAME COCKS.**—Prize, J. A. Williams, Spring Bank, Welshpool. Highly Commended, G. S. Sainsbury, Devizes. Commended, W. Nicholas, Caerphilly, Glamorganshire.

**COCHIN-CHINA.**—Prize, H. B. Sketch, Blaina Iron Works, Blaina. Commended, Mrs. M. Seamons.

**BANTAM (Game).**—Prize, Rev. A. K. Cornwall. Highly Commended, T. Davies. Commended, W. Bradley.

**ANY OTHER VARIETY.**—Prize, H. B. Sketch (Crève Cœur).

**COTTAGE'S PRIZES.**—First, C. Allen, Malpas, Newport (Spanish). Second, G. Boundy, Malpas, Newport (Silver-spangled Hamburgs). Third, Mrs. E. Ford, Newport (Golden-spangled Hamburgs). Fourth, W. Davies, Victoria Avenue, Maidee, Newport (Spanish). Highly Commended, C. Allen. Commended, W. Jenkins, Malpas, Newport (Game). C. Harris, Maidee Park, Newport (Silver-spangled Hamburgs); W. Davies (Brahmas). **Ducks.**—First, C. Harris. Second, W. Reed, Malpas, Newport. Third, C. Allen. Fourth, W. Reed.

#### PIGEONS.

**CARRIERS.**—First, E. E. M. Royds, Green Hill, Rochdale. Second, H. Yardley, Market Hall, Birmingham.

**POWTERS.**—First, E. E. M. Royds, Green Hill, Rochdale. Second, H. Yardley, Market Hall, Birmingham. Commended, G. S. Sainsbury, Northgate Street, Devizes.

**TUMBLERS.**—First, J. Percival, Clent Villa, Harborne, Birmingham. Second, H. Yardley, Market Hall, Birmingham. Highly Commended, H. Yardley.

**PASTALS.**—Second, G. S. Sainsbury, Northgate Street, Devizes. Highly Commended, G. S. Sainsbury. Commended, T. Roe, Dock Parade, Billingsley.

**ANY OTHER VARIETY.**—First and Second, H. Yardley, Market Hall, Birmingham (Spots and Priests). Third, E. E. M. Royds, Green Hill, Rochdale (Yellow Balbs). Highly Commended, A. Middleton, Newport. Mon. (White Trumpeters); G. C. Murton, Bishopstrow, Warrminster, (Red Jacks). Commended, T. Roe (Black Jacobins); G. C. Murton, (Silver Owls and Blue Turbans); J. B. McGregor, Great Malvern (Blue Owls); E. Lanfear, Newport (White Trumpeters).

The Arbitrator was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, near Birmingham.

#### STOKE-ON-TRENT EXHIBITION OF POULTRY AND PIGEONS.

The third annual Exhibition of Poultry and Pigeons took place in the Town Hall, Stoke-on-Trent, on the 13th and 14th instant. The number of entries was much larger on this than on the two former occasions, and some excellent pens in the various classes were shown.

The following is the prize list:—

**DORKINGS.**—First, Mrs. Bailey, Shooters' Hill, Longton. Second, Mrs. Arkwright, Etwell Hall, Derby.

**SPANISH.**—First, J. Mansell, Longton. Second, E. Fell, Burslem.

**COCHIN-CHINA.**—First, H. Yardley, Market Hall, Birmingham. Second, J. Stokes, Grinden Rectory, near Leek.

**HAMBURGH (Golden-pencilled).**—First, G. Williamson, Nantwich. Second, J. Gleave, Church Lawton.

**HAMBURGH (Silver-pencilled).**—First, G. Bagshaw, Uttoxeter. Second, J. Gleave.

**HAMBURGH (Golden-spangled).**—First, W. Tatton, Leek. Second, J. Birkin, Newcastle.

**HAMBURGH (Silver-spangled).**—First and Second, T. Leech, Knutton Cottage, Newcastle.

**POLANDS.**—First and Second, J. Heath, Nantwich.

**GAME (Black-breasted Red).**—First, J. Heath. Second, F. Bagshaw, Uttoxeter.

**GAME (Other kinds).**—First, G. Swift, Fulford, Stone. Second, W. Clark, Burland, Nantwich. **Cocks (Single).**—First, W. Wainwright, Stretton-under-Fosse, Rugby. Second, T. Stanyer, Nantwich.

**BANTAMS.**—First, W. Griffiths, Nantwich. Second, G. Williamson.

**TURKEYS.**—First, J. Brasington, Barlaston, Staffordshire. Second, G. Walker, Sandon. **Single.**—First, Rev. A. Clark, Longton. Second, F. E. Richardson, Bramshall, Uttoxeter.

**GEES.**—First, C. S. Smith, Consall Hall, Leek. Second, J. Lyett, Marston Villa, Stafford.

**Ducks (Aylesbury).**—First, J. Platt, Swanlow, Winsford. Second, Mrs. M. Homby, Swanlow, Winsford.

**Ducks (Rouen).**—First, J. Withnashaw, jun., Elm Honso, Nantwich. Second, Rev. H. J. Stokes.

**GUINEA FOWL.**—Prize, Rev. H. J. Stokes.



**Pheasants.**—*Carriers.*—First, H. Yardley, Birmingham. Second, G. C. Holt, Tunstall. *Tumbler.*—First, H. Yardley. Second, J. Smith, Longton. *Trumpeters.*—First, T. Robson, Penkridge. Second, J. Withinslaw, Junr., Nantwich. *Poulters.*—First and Second, G. Tunnicliffe, Hineckley. *Dragoons.*—First, E. Butterworth, Nantwich. Second, H. Yardley. *Knights.*—First, H. Yardley. Second, G. Edwards, Normacott. *Runts.*—Prize, H. Yardley. *Any variety.*—First, J. H. Nixon, Nantwich. Second, H. Yardley.

The Judges were: *Poultry:* Messrs. J. Machin, Trentham, Macclesfield. *Pigeons:* Messrs. Woodley & Dutton, of Banbury.

## ERRORS IN THE GOOSE AWARDS AT BIRMINGHAM.

As a rule I never complain of the decision of Judges, whether I exhibit at an Agricultural, Horticultural, or Poultry Show, but there have been on two occasions at Birmingham such singular violations of the rules of the Council that I feel I must for the second time call attention to them.

About two years ago I stated that in the first-prize pen of Geese, in the Grey class, there were a white gander, a Toulouse gander, and a pied goose—certainly two Ganders—all utterly different birds, and when I remarked that I might just as well have shown a Buff, a Partridge, and a White Cochon all in one pen, I was told that it was a heavier pen by 1 lb. than mine, the birds in which were true to a feather, and all perfect Toulouse in every characteristic, and which had won three or four years in succession at the same Show. Here weight had the pre-eminence, although the rules state that "high condition, beauty of plumage, and purity of race, must stand before mere weight." However, I put up with it, and did not show last year, nor did the celebrated lady who won the year before; and this year I sent again a pair of my old birds, weighing 56 lbs. the pair, and found my old opponents—one Toulouse gander and one pied goose—again beating my two pure-bred ones. If a pied goose be shown, it should have a white or pied gander to match it; at all events, purity of race demands its recognition.

I now come to the birds of 1865 in the same class, and I cannot understand this. The same rule applied as before, two odd birds were placed first, a pair of Toulouse of Mrs. Seamons' second, a pen of my Toulouse highly commended, and my beautiful pen, which actually weighed 9 lbs. the pair more than the highly commended pen, and 5 lbs. more than Mrs. Seamons', not noticed. Now, here mere weight was not allowed to tell, notwithstanding that it was allied to all the other qualifications; this pen weighed 47 lbs. when it left here, and when the birds came home they still weighed 9 lbs. more than my highly commended pen, and 4 lbs. more than the second prize one. Surely this system wants correcting.—JOHN K. FOWLER, *Prebendal Farm, Aylesbury.*

## RAILWAY CHARGES.

I HAVE perused with pleasure the remarks of "Y. B. A. Z." on the above subject, which appeared in your issue of the 5th inst., and my only surprise is, that the matter has not been taken up before, especially by those parties who are in the habit of sending a great number of hampers to a considerable distance. Those who do so, though they may be fortunate enough to win a prize or two, would, one may reasonably suppose, feel rather galled to find that the amount of their prize money, or even more, was swallowed up in railway carriage. This is a sore point, and I trust, now that the matter is started, every one interested will lend a helping hand and try to overcome the difficulty. I feel convinced that it can be done, and if the various railway companies would grant a reduced rate for the conveyance of exhibition poultry, I am persuaded a greater number of persons would exhibit their specimens than at present. There are some who possess first-rate birds and are anxious to exhibit them, and are prevented solely through their inability to pay entrance money as well as excessive railway charges. How to remedy the evil, then, is the first consideration. Of course we, the poultry exhibitors, are in the hands of railway officials as far as the point in question is concerned, let us then view the existing rates for the conveyance of poultry by railway. On some lines I find the charges are 50 per cent. more than the ordinary parcels rate. I do not say it is the case on all lines, but I dare say the charge is even higher than this on some. I would suggest, then, that instead of the above rate, the ordinary parcels rate should be charged to and from the places of exhibition. This rate would be amply remunera-

tative to the railway company, as well as within the means of the cottager who might wish to show his birds; or, if this is objectionable, although I cannot see how it can be, let the existing rates remain unaltered, and, as suggested by "Y. B. A. Z.," unsold specimens be returned free, or, as "returned empties," the rates for which would be quite nominal. To suggest, however, is easier than to carry into effect.

How to obtain a reduction of the present rates is the next consideration. As success cannot, in my opinion, be achieved through the representations of an individual, let it be done collectively. I would, therefore, recommend the formation of a committee, comprising poultry exhibitors or others who are interested in the matter, the subject to be well discussed, and their decisions or suggestions communicated by them (the committee), to the head of one of our great railways—say the Great Western or London and North-Western, or both, and I do not see any serious objections in the way of gaining the point to the benefit of railway companies, as well as of a large class of the public. I have no doubt that if the consent to a reduction of the rate could be obtained from one of the companies named, others would follow suit. No other way readily presents itself at present, and with all due respect to the press, if left to the press alone ultimate success, I imagine, is a long way off. Decisive measures should be taken, and that speedily.—J. K.

It seems evident to any impartial person that railway authorities do not act altogether fairly towards exhibitors of poultry. They grant the return of empties, however bulky, at a nominal charge; they often return stock free, pointedly excluding our pets, of which the weight is comparatively nothing. We not unfrequently notice in schedules of prizes that such a railway has consented to return all birds unsold free; sometimes we notice the same railway performing this kind act annually. Is it probable that they are large losers by their generosity? I think I have shown before that this cannot be the case; that it is a point which often decides exhibitors in showing not only their poultry but themselves.

A brother fancier has lately told me a marvellous piece of red-tapeism, which can only be useful to the revenue from Post-office. He says, "I always get back the railway charge for the return journey on such and such a line; but still they always persist in charging it, and then a correspondence ensues, which ends in their refunding the amount!" Well, this is better than paying; but how much more gracefully all this might be done beforehand—held out, in fact, as an inducement to exhibitors to patronise the Show.

Lately I have experienced a little in the shape of "insult added to injury." Most exhibitors are well aware that a pen of poultry returning from a Show weighs considerably less than when it started from its owner. Recently I sent some pens to a neighbouring Show, one was sold, but, marvellous to relate, the remaining pens were charged for the return journey far more, although less in weight and numbers. Of course I requested a solution of the enigma. My own station-master replied that they had a bye-law by which poultry in crates were charged 50 per cent. extra. He further told me that, noticing the enormous charge, he had remonstrated with the other official, explaining to him his error. Either he could not or would not see it. He said he had charged it, and that was sufficient. I quite agreed with him that it was more than sufficient to pay, and I felt extremely obliged by his kind extra attention to my birds. I paid the money, wrote to head-quarters, and explained that this official reply did not satisfy me, and in process of time the extra 50 per cent. was refunded, and I trust this very sharp (?) official was reprimanded. I presume I was not the only exhibitor so charged, and possibly many paid it in ignorance. It is a novel method of encouraging railway traffic that cannot, I fancy, pay in the long run!

I think I shall try the refunding plan of my friend, although it does seem unnecessary to pay, and then to receive it again. If several of us tried this persuasive plan we might by degrees teach railway authorities the lesson which they do not appear to understand. Perhaps even they may be sinning in ignorance. If I may further trespass on your space in this matter, I shall hope shortly to propose a remedy.—Y. B. A. Z.

## TUMBLING PIGEONS.

I SEND you an account of an extraordinary roll performed by one of my Pigeons last Saturday. He is a neat rolling cock, one of my best high-flyers, but rolls so much that he cannot



fly with the flight, but is what is called a top-flyer, flying above all the others, and every now and then rolling into the flight. They were at the time taking a nice fly; the cock in question was at the height of about 400 or 500 feet, as nearly as I could judge, when he made a sharp spin and rolled till he came to the ground. I was much afraid he would be hurt, but, fortunately, he does not appear to have received any injury. He quickly got up, flew to the roof and went in, leaving the others to continue their flight, which they did for an hour. I have several others that roll to the ground, but then they cannot get up so high, indeed, it is the longest roll I ever saw or heard of; how many times he went over in that roll it is impossible to say.

Air-tumblers often tumble twenty, thirty, or even forty times in a minute, and I once counted a white cock tumble forty-five times in a minute. I have still some of the breed, but the beauty of their tumbling is that each somersault is made clean and distinct, without rolling or falling; first-rate birds are very rare. Others of the House-tumbler variety tumble close to the ground, the best cannot fly up at all, they will tumble in the house or on the lawn, and are very curious and amusing.—B. P. BRENT.

### A CAUTION TO SELLERS.

A SHORT time since I received a memorandum bearing a printed name and address at a certain street in Manchester, requesting me to forward some birds which I had for sale. I was not satisfied with the bait, and I did not swallow the hook. I have since ascertained that the person in question is "a notorious swindler, and not worth a penny."

This communication may be acceptable to your readers, as it may prevent some of them from sending birds to Manchester without a sufficient guarantee for their safety, and it will save much trouble to the swindling fraternity to know that I am not easily taken in, and that I am prepared to "ventilate" them should they make the attempt.

If any of your readers should have been victimised by an application from Manchester, and will send me the name of the swindler, I will publish the name and address in full if it should be the same as that of the fellow who tried his tricks upon me.—GEORGE MANNING, *Springfield, Essex.*

### THE WOODBURY HIVE.

IN Mr. Woodbury's description of his justly celebrated hive, respecting fitting it with bar frames, he says, "A three-eighth rabbit is cut out of the top inner edge at the back and front, and below this are the notches, seven-eighths wide by three-eighths deep, in which rest the ends of the frames. This arrangement affords the bees a free passage above the frames as well as below and at the sides." Now, in the first Woodbury hive I had made these instructions were rigidly carried out, in fact, my Woodbury hive was exactly like the pattern given in "Bee-keeping for the Many," and made by a good workman.

My first swarm this year was on May 19th, it was hived in the usual way, and the bees were afterwards shaken out on a cloth and the Woodbury hive placed over them; they soon went up and all went right. July 1st I removed the crown-board and placed the super on, one exactly the right size and fitted close down to the hive. August 14th I removed the super quite full of splendid honeycomb, not a brood cell in it, and all sealed up, weighing about 30 lbs. nett, and leaving the stock-box with 25 lbs. in it; but unfortunately the bees had worked between the super bottom and the tops of the frames, though there was only three-eighths of an inch between them (the proper distance), and then again the bees had worked between the tops of the bars and crown-board in the super.

I have not had the frames out of the hive yet, but I do not think that the bees have worked between the sides of the hive and the frames, excepting a little down two frames which come against the window; the glass being let in too deep a rabbit, instead of being flush up, gave them a little more room. I suppose Mr. Woodbury's reason for having the frames let-in the three-eighth rabbit is that the bees may have free access to the super. I should not have troubled you with this, but I am having more boxes made, and I thought of having the frames put in level with the sides of the hive. Please say if you see any objection to this, and if you have known instances of bees working between the frames and super, as I have described.

In the spring I shall want to remove the bees and frames

from this hive into another of the same dimensions; but not being quite such a good hand at it as Mr. Woodbury, I think it would be best first to drive the bees into an empty hive. To accomplish this, should I remove the crown-board and drive them up in that way, or should I remove the floor-board and turn the hive upside down? Be good enough to say which is the right way.—J. A.

[Three-eighths space is left at the top of the frames in order to facilitate the removal and replacement of the crown-board without crushing the bees. It is true that during the height of the season they will fill even this small space with comb, but it can be readily scraped off when supering is over, and the crown-board will then remain free till next year. If the combs are not worked perfectly straight it may be the easiest plan to drive the bees, and we should be glad if you would try to drive them upwards through the bars, and report the result, as it is a little matter on which "doctors differ." During the autumn of 1863 Mr. Woodbury hazarded the opinion in our columns, that bees might be driven in this manner, which opinion was demurred to by "E. & W." As we doubt whether either of these gentlemen have submitted their ideas to the test of experiment, we should like to see it tried by a third party.]

### THE DISEASES OF BEES.

(Continued from page 476.)

DROPSY (?).—During the winter of 1861–2 I lost three stocks from what at the time I called, and believed to be, dysentery,\* but which I am now disposed to consider a malady heretofore undescribed by apirians, and which may, perhaps, be appropriately designated dropsy, to which disease it bears indeed no inconsiderable resemblance. Its symptoms are great enlargement of the abdomen, which becomes so distended with a watery fluid that the unfortunate bee is perfectly unable to fly, in which state it either betakes itself to the top of the hive or rests on the floor-board, where, if the weather be cold, it dies, or whence, if the weather be warm, it drops on the ground, and crawls about until it expires. The natural functions appear to be entirely suspended, and if the abdomen be forcibly compressed a rupture of the membrane takes place, attended by a flow of its watery contents, which emit a sour and disagreeable odour. Contrary to what Dzierzon remarks in the case of dysentery, the queen enjoys no immunity from this disease. When she is attacked she becomes incapable of oviposition, whilst her abdomen swells to a remarkable size: after some days have elapsed she loses her hold of the combs, and drops on the floor-board, where, surrounded by a number of her subjects, she may yet linger many hours before death relieves her from her sufferings. A friend of mine, who is an excellent naturalist, kindly undertook to preserve and set up a very handsome Ligurian queen that perished in this way, and he informed me that on opening her abdomen a good teaspoonful of fluid gushed out! I had also a young Italian queen which, about the time I expected her to commence egg-laying, increased so rapidly in size that I became not a little proud of her as the largest queen I ever saw. Alas, for the fertility of human hopes! My magnificent queen turned out to be not *eniente*, but diseased, and perished without ever having laid an egg.

I had two other instances of this malady about the same time in which the queens escaped, and I could almost fancy their breeding powers were actually stimulated by the presence of the disease, since their fecundity not only overtook the extraordinary mortality which constantly prevailed, but theirs became two of the strongest stocks in my apiary. It was, however, most pitiable to see, all through the spring and during the finest summer weather, the ground in front of the hives perpetually covered with hundreds of disabled and dying bees, which crawled about in all directions, setting up at intervals a feeble vibration of their wings, as if in faint imitation of the hovering cloud of joyous labourers overhead, in whose delightful toil they were never again to participate. It will readily be believed that I exhausted my ingenuity, and sought for information from all quarters, in the hope of effecting a cure. I even obtained the advice of the great Dzierzon, who was, however, unable to suggest a remedy, but opined that the disease I described was "a kind of dysentery." As a remedial measure I first tried shifting the combs and bees into clean hives, but no mitigation of the virulence of the disease was the result. I next took away all their combs and brood, which I gave to other

\* *vide* JOURNAL OF HORTICULTURE, Vol. V., page 503.



bees, and compelled those I had thus rendered destitute to commence the world afresh in an unfurnished habitation, but all to no purpose. New combs were built and profusely brood in, but still the mortality continued. One thing, however, became evident—viz., that the infection, whatever it might be, was certainly confined to the bees themselves, since neither their combs nor their brood communicated it to those healthy stocks to which they had been transferred. It therefore occurred to me, that if I could succeed in eliminating every diseased bee, retaining only those that were perfectly healthy, I might succeed in banishing the disease altogether; and as this really turned out to be a "perfect cure," I will fully describe the means by which it was effected. Selecting a fine day, and spreading a cloth on the ground, I looked over the combs until I discovered the queen, which I imprisoned in a queen cage, and then set the hive on the ground, putting an empty one in its place. I next took out the combs one by one, brushing off every bee on to the cloth, placing the combs in the previously empty hive, and completed the operation by putting on the crown-board and introducing the queen at the top. In this way I effected the end I had in view, which was that no adult bee should be permitted to enter the new hive, that was unable to rise from the ground and gain the entrance by means of its wings. A number of infant bees, as yet unable to fly, were unquestionably lost; but I spared no pains in rescuing as many of these as possible, and had the satisfaction of finding that I had at length effected a radical cure. I am, moreover, happy to say that this troublesome malady has not since appeared in the apiary of—A DEVONSHIRE BEE-KEEPER.

### HONEY HARVEST.

As my brother is sending you an account of the cure of foul brood, I just add a short notice of my experience during the past season.

Like my friend "T. W.," I began with three stocks. Two of these were in frame hives, whilst the third was housed in a flat-topped straw hive; all were fed regularly from the beginning of March to the end of April. The straw hive threw a swarm on May 20th, weighing 5 lbs., which I placed in a frame hive, taking from it on June 24th a small cke of honey, weighing 9 lbs. This swarm sent off a "virgin" on July 3rd, weighing 6 lbs. 3 ozs., and twelve days subsequently a "virgin cast," whose weight I am unable to speak of. I took a second well-filled cke of 9 lbs. from the swarm, and in addition a "super" from the parent stock on July 22nd, weighing 14 lbs.; so that besides quadrupling my stock I obtained 32 lbs. of fine honey. The other two stocks in frame hives have not swarmed, but have yielded together a side box and two supers containing 52 lbs. of beautiful honey.—D. K. D.

### FOUL BROOD CURED.

In September, last year, I made the unpleasant discovery that foul brood existed in two of my hives, some account of which, and of my attempt at cure, will be found in the Numbers of "our Journal" for September 27th, and October 11th. I now write, as promised, to inform you of the result.

Premising that most of your readers will not be able readily to refer so far back, and hardly supposing that those who could, would be at the trouble of so doing, I will briefly mention the facts of the case.

In the summer of 1883 I purchased a stock of Ligurians in a Woodbury hive. In the autumn of that year, finding that it was queenless, and that the bees had almost dwindled away, a driven swarm was added. In the spring of 1884 I found four of the combs covered over with mould, and removed them. During the summer the hive dragged on a miserable existence. The bees increased in numbers, but seemed dispirited, and neither swarmed nor yielded me any surplus honey. So unsuspicious was I, however, of anything seriously wrong, that I placed a fine Ligurian swarm, in May, side by side in the same shed. Not till September did I overhaul the combs, and then found large masses of foul brood in nine out of the ten frames, and unfortunately the adjoining swarm had caught the infection, though it only existed in a few scattered cells. I afterwards found that a neighbour's hive, a swarm from a perfectly healthy stock, was also infected, doubtless from the bees robbing mine, which they had been seen to do.

Mr. Woodbury, to whom I sent a sample of the comb, pro-

nounced the disease to be of a very virulent type, and advised the destruction of both the infected colonies. For reasons then given, I resolved, however, to attempt a cure, and first securing the queens of each of the hives, drove and united the bees. After keeping them in quarantine for six days (giving them the best queen, a well-marked Ligurian, on the fifth day) they were put into a common straw hive full of comb, which was entirely free from brood, and had a sufficient supply of food. I then took them to a friend's garden two miles off for the winter.

During the cold weather many bees died. I twice cleared from the bottom board a thick covering of dead bees, so that when the hive was brought home in the spring, there was a mere handful left clustered in two end combs, and many of the other combs were a good deal mouldy. I at once began to stimulate them, by giving about an ounce of syrup every night regularly for several weeks, and they rapidly increased, swarmed on June 6th, and cast on the 13th. Shortly afterwards I drove the remaining bees and united them to the cast. I then cut out the combs from the hive, very minutely examined them all, and am glad to say that there was not the least trace of the disease. I have also examined the swarm and cast, which are, I believe, perfectly healthy, they are strong stocks, and have each yielded me surplus honey.

I think this experiment has proved that the cure of foul brood so late as October is possible. I am not sure that it is commercially profitable to attempt to do so. In the case of common bees, at least, I should think to destroy would be safer and cheaper. My neighbour whose hive was infected adopted this course. I trust we may both escape a return of this very unwelcome visitor to our apiaries.—C. D.

### BEE-KEEPING IN HAMPSHIRE.

A SITUATION only just on the outskirts of the City of Soot, as some persons, more loosely than respectfully, choose to designate the metropolis of cutlery, may be supposed to offer but small prospect of successful bee-keeping, and many would probably regard the attempt as a ridiculous and somewhat cruel hobby. So three apiarists, living within the sound of Sheffield parish church bells, send you a few results of the past season to show that under great disadvantages bee-keeping may be both pleasurable and profitable:—

#### SATISFACTORY HARVEST—EXTRAORDINARY VIRGIN SWARM.

Commenced the season with three stocks:

A, a plain box, intended for supering, very weak in numbers, and rather short of food. From March 1st to May 17th gave 1½ oz. of syrup every evening. Swarmed June 22nd—5 lbs. 12 ozs. weight, which I sold, and July 11th took from the stock three bell-glasses containing 11 lbs. of honey.

B, a set managed on the collateral system, moderately strong, and fairly supplied with food. From March 1st to May 8th gave 1 oz. of syrup each evening. Swarmed May 22nd—weight 5 lbs., and, July 28th, took away a side box containing 16 lbs. 5 ozs. of honey. This swarm was put into a frame-box, and, July 2nd, I took from them a well-filled super of 25 lbs. nett, and, July 22nd, a second super containing 11 lbs. 8 ozs. of honey.

C, a good stock, strong, and well stored in a collateral set of boxes, and not encouraged by spring feeding. This stock swarmed May 20th, weighing 5 lbs. 9 ozs., was put into a Woodbury frame-box, and gave a cast June 3rd—2 lbs. 1 oz., which was put into a flat-topped straw hive. The swarm yielded me July 3rd, three bars of honey from the super—11 lbs. 3 ozs., and, July 28th, 11 lbs. more; and, on the 7th July, it sent out a virgin swarm, weighing 8 lbs. 9½ ozs., a fact which I could not have believed if I had not, besides weighing the swarm myself, had two intelligent witnesses, and I am sure it was not a union of swarms, for I saw the whole process from the beginning, and did not leave them till I had shaken the swarm from the groaning branch of an apple tree into a large straw hive. The cast prospered well, and, besides filling their straw home, gave me 2 lbs. 2 ozs. of honey in a small topping.

I have thus had four swarms (two of which I sold immediately, the extraordinary virgin swarm being one of them) and one cast—that is, 26 lbs. 15 ozs. of bees, and have taken 91 lbs. 2 ozs. of pure super and side-box honey, in which there was not a particle of bee-bread, and only in the centre combs of the Woodbury super any trace of brood.

My six stocks are all well supplied with food of their own gathering, and appear in a prosperous state, except A, which



is wofully diminished in numbers, and I quite apprehend to be queenless, but, not being in a frame hive, I can only guess at the matter, and suppose that some accident happened to her July 15th, as I noticed a very great commotion among the bees in the evening of that day, which did not wholly subside till the 18th.—T. W.

### TEMPERATURE OF BEE-HIVES.

HAVING felt a considerable curiosity as to the temperature of bee-hives, I last year commenced a register of the thermometer in one stock, continuing my observations on two stocks during the spring of the present year, having (as an extra inducement for so doing) succeeded in getting my friend "T. W." to keep me company with two of his hives. These observations were made three times a-day—viz., at 8 A.M., 1.30 P.M., and 6.30 P.M. I had two thermometers in each of my stocks A and B, one suspended in the centre, and the other placed at the back window. "T. W." had only one at the back window of his two stocks C and D, and as I fear it would be occupying too much of your space to send a copy of the daily readings, I have reduced them to monthly averages, and hand you a summary of the whole four stocks for the three months ending May. The figures in every instance show the average difference in temperature between the hive and the external air. The greatest difference recorded on any day was in B on May 5, when the thermometer in the centre of the hive showed 43°, and at the window 24° higher than the temperature of the outer air.

	A		B		C		D	
1865.	Window.	Centre.	Window.	Centre.	Window.	Window.	Window.	Window.
March ..	3°	5°	9°	13°	7°	8°	3°	3°
April ..	4°	8°	15°	30°	12°	18°	18°	18°
May ....	11°	16°	22°	33°	25°	25°	25°	25°

—D. K. D.

### DYSENTERY AMONG BEES.

THAT dysentery arises from the bees retaining their faeces too long will, I think, be admitted by most people who have had much experience of the evil. Their powers of retaining them for a long time when circumstances are favourable are very great, but they may be overtaxed, and, when this is the case, excrements will be discharged within the hive. Long before the capability of retention, however, is overcome, the foundation of an almost incurable state may have been laid. With the avoidance of the faeces the evil may be only temporarily at an end; for bees afflicted with dysentery do not, on obtaining relief to their distended abdomens, immediately return to a completely healthy condition. If, after this, they are compelled to continue within the hive for some length of time, it will be found that many of them are swollen as before, and loaded with a watery fluid, which will be opaque or transparent, according to its greater or less consistency. In order, therefore, to secure the safety and preservation of a stock suffering from dysentery, it is absolutely necessary that the bees be able to leave the hive at short intervals and evacuate. If, by reason of cold inclement weather, this is impossible, the hive, with abundance of food and thousands of bees in it, may perish in a night. I have seen one or two nights of severe frost exercise a fatal influence upon an unhealthy hive.

With the cure prescribed by Dzierzon, as given in Mr. Woodbury's last interesting article, I am perfectly familiar, and have several times put it in practice with results sometimes favourable and sometimes the reverse; but, when practicable, I would recommend the window against which the bees are intended to fly to be moveable, and placed immediately in front of the outer window of the room. The glass of the outer window, even with a winter sun shining upon it, is often very cold, so much so, as to torment the bees, and if they once fall down asphyxiated, the cure is little better than the disease. It is desirable, also, to have the room in which operations are conducted heated by a fire, and, to save the carpet from discharges, the space between the hive and the window, which should be 2 or 3 yards, may be covered with newspapers.

The causes of dysentery are very correctly stated to be any circumstances which occasion such a consumption of food as to overload the bees with faeces, which they cannot get parted with. Long confinement will cause it, and so will impure air, which excites the bees to begin ventilation, and they are thereby thrown into unseasonable activity. Sudden changes of temperature are also deleterious, for the moment the thermometer

makes any considerable rise within the hive, the hitherto inactive inhabitants begin to consume food. Continued wet weather in October, November, and the early part of December, with either a high temperature or one that keeps only a few degrees above the freezing point, is very prejudicial, especially if high winds prevail. Bees in an active state, from whatever cause, necessarily consume food; and, if prevented by stress of weather from travelling beyond the limits of their habitation, the results witnessed in dysentery must inevitably follow.

As prevention is better than cure, I would recommend that winter stocks be neither fed nor disturbed in any way after the middle of October, and that as soon as possible thereafter they be equipped in warm winter coverings. A sheltered corner, played upon by the winter sun, is also a very good location in this cold, ungenial, northern clime. When the bees have gone to roost, and been continued frost sets in, they can retain their faeces with impunity for two or three months, and in such weather the site of the apiary is of little consequence; but with frost and thaw frequently recurring, a nook screened from wind, and lying towards the sun, is truly valuable.—R. S.

As one who has suffered by dysentery in my apiary, I most willingly offer to the readers of THE JOURNAL OF HORTICULTURE, what I have found to be most useful in removing it, or at least staying its further progress.

At the end of last February I received a hive of bees from Germany, and when I gave them their liberty many could only reach the entrance of the hive, where they voided their faeces. Every morning I examined the hive, and found numbers dead on the floor-board. I got ready a second floor-board, and every morning lifted the hive off its board, and gave it a clean one, taking the dirty one away and washing it in boiling water and soda made very strong. This I continued to do till the end of March, feeding the bees during the interval, as they were short of food, and cutting away the bottom of the combs they had soiled by their excrement. April set in fine, and the queen began laying very rapidly, but not till the inhabitants had dwindled so low that there were scarcely enough left to rear the brood; however, they recruited so rapidly that the hive yielded more honey than I could have expected.

I am of opinion that one of the causes of dysentery is the long confinement to which the inmates of many hives are subjected in protracted winters, and in the case of my hive there is not the least doubt, as it came from the continent; and, as Mr. Woodbury states, the winters are both long and severe in Germany. I have been conversing with an old and experienced German bee-keeper, who tells me that in Germany, when the hives are attacked, nothing that can be done will stop the disease, and nothing seems to do them so much good as a change to mild weather. From my own experience, I believe cleanliness to be essential to the bees, taking care to remove all deposit about the hives. If I have a second visitation of the disease, I will inform you of the result.—T. S.

LATE POLLEN-GATHERING.—The weather to-day (Dec. 20th), being very mild, although dull and sunless, the bees of all my twenty-five stocks are showing in greater or less activity, and into one in particular, which, for certain reasons, is watched with peculiar interest, pollen is being freely carried.—A DEVONSHIRE BEE-KEEPER.

### OUR LETTER BOX.

WHITE COMB (R. W.).—The white scurfy appearance on the comb and face of your Hamburg hen, is known as white comb. Rub the place with a little sulphur ointment.

PIGS AND POULTRY (J. Cocker).—A volume on the pig was published in the "Library of Useful Knowledge." Our "Poultry-keeper's Manual" is now published, price 7s. 6d., and can be had free by post from our office for four additional postage stamps.

MACAWS (W. K. W.).—There are no Macaws found in Africa. All Macaws, numbering about ten different species, are natives of South America. The colours are scarlet and yellow, red and blue, blue and yellow, and dark blue and black. The most valuable is the large blue one, known as the Maximilian. The Australian Grass Parakeet breeds freely in this country if properly managed, but it is preposterous to suppose anything like the Canary. We know of no small foreign birds that can be depended upon for breeding in cages in this country, nor are we aware of any work published on the subject of breeding small foreign birds.





Mid Christmas

THE  
JOURNAL OF HORTICULTURE'S  
Christmas Number  
AND  
Almanack  
FOR 1866.

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## THE BEGINNING OF IT ALL.



N the dreary month of November,—that was the stereotyped commencement of old tales,—as the two editors, like two spiders, were each in his appropriate nook—that's not a bad simile, for editors, like spiders, have to spread their webs to catch contributors and make them buzz, and to catch readers and bleed them; but that's all, by the by. There the two editors sat, and the one said to the other, "I wonder what that proposition from our friend at Waterloo will come to?"—not the Waterloo in Belgium, although both the editors have been there this year, and took care to let their readers know it, but Waterloo in England, and the proposition was in these words: "Do you ever publish at Christmas an extra special number for our Christmas hearth?"

Now, the proposer of that question knew as well as the editors did that they never had published such a special number; but he knew the nature of editors, and that if he had dared to say, "You had better publish a Christmas number," their superior knowledge would have felt smalled, so the advice was masked and cunningly disguised by its query form. So the two spiders did not withdraw as spiders do when they hear an unwelcome noise, but they extended their webs subtly, and hoped to entangle many contributors—and they had waited days but entangled no one—and this induced the suggestive sentence aforesaid, "I wonder what that proposition will come to?"

Now the other editor was not blithe that morning; it was, as has been said, in the dreary month of November, and it was a morning of fog—fog such as only the dwellers in London know—yellow, and thick, and full flavoured; so that editor put the extinguisher on the prefatorial suggestion by a *cw* ("I don't know." Now his brother editor never suspected he did, for he knew he was not a medium; but there was no occasion for such a reply as that. Why did he not say, "I think very satisfactorily?" for he did think so; and his brother editor looked at him reprovingly, but like a wise editor, as he is, replied nothing—

Which is an unerring way  
When people nothing have to say.

Nor was there any occasion for a reply, for one of the desired contributors was announced—"a fellow of infinite jest"—a fellow who lives to joke, and who one would think dreams jokes, for he has some fresh every morning. He was loud in laudation of a Christmas number. "For," he added, "you can have some jokes in it. I've got one or two already. Here, now's,

## AUTUMN PAYMENTS.

Sounding through the hazy woodlands  
Fall the nuts about;  
Nature from her fair and good hands  
Now's a shelling out.  
Bees have ceased their drowsy humming;  
Blows the fitful gust;  
Breezes on the roads are coming  
Down with their dust.

"I've not got any further than that, but here's an ornithological article—capital, though I say it who shouldn't:—

## THE AVIARY.

Tastes differ with regard to birds. The infant delights in crows, but hates the thrush; some lunatics are raven mad; gluttons are fond of swallows; artillerymen are fond of Parrots; misers cultivate the golden eagles; gamblers like pigeons and gulls; thieves go in for robin; and every good husband loves his duck of a wife."

And the editors said "Good; go home and finish those happy beginnings." So he went, but they heard of him no more, nor of his jokes either.

Soon letters began to arrive, and the first needing mention was one from that terrible Cornish woman, Miss Penelope Pomeroy, of Cackleton Hall: it was not to be mistaken, written on determined stiff paper with a broad-nibbed pen, every stroke a dig. The editor hesitated over the missile, but his co-sufferer said, "Oh, never mind!" though he well knew that the contents would partake of the nature of what the great boys at our school with grim irony called "giving case," as they rubbed the hairs of little boys up the wrong way, and the editors were not wrongly anticipatory, for it began without any prefatory address—"We have too many Christmas numbers already; a 'Michachmas Medley,' or a 'Spring Syringing,' might have had a semblance of novelty. You are like our rocking stone, everlastingly moving; you'll be upset some day." The editors rubbed their noses—that organ is the index of mental irritation—and he who read this inky snap said, "I'll tell her never to dare to write to us again, and that she is only excusable because she's an old woman." "Perhaps she may reply," said he of the other nook, "that she is glad that she is not an old man, for that's worse!" So the editors communed together, and were pacified, and their countenances radiated as they looked upon the next letter, for it was from that blessed man the "Wiltshire Rector"—a man strong in the Scriptures and in making things comfortable; and thus began his drops of balm from his rectorial downs, "Excellent! Capital! The plan may be carried out so as to be extremely beneficial." And then he proceeded to show that he would write about everything and one or two subjects besides. Then the two editors looked benignly on one another and nodded as if taking wine together; but that was only imaginary, unless they "made belief very much" more than the little "marchioness," for they had not even her orange peel and water.

The third letter was on satin paper—pink and musky—and the small, very pointed letters, written seemingly with a crow quill; in fact, it was not a full-grown letter, but a darling little note, and began "Dear Editor;" and the spiders looked each at the other, and said within his inmost thoughts, "She can't have thought *him* very attractive." Then the reader proceeded with the note, and it said, "Have some poetry in your Christmas number. I do love poetry, and you know that you once wrote this"—

## THE THORNLESS ROSE.

## I.

That night the fairy Queen was led  
By Oberon to the nuptial bed,  
The elves with magic sleight conveyed  
Flowers of all seasons to the glade,  
Where, as in some enchanted zone,  
The royal lovers supped alone.  
Imperial blossoms formed the dome  
Kaleidoscopic of their home—  
A small pavilioned area, bright  
With blossoms shedding living light.  
Of rose leaves was their couch—the ground  
With lilies carpeted, around  
Ambrosial odours shed, to tell  
How high their state who there did dwell.

## II.

While there in amorous folds they lay,  
Attendant fairies bore away  
The thorns that every rose-stem bears  
To symbolize a lover's cares!  
And piling them in one dark pyre,  
To ashes burned with mystic fire.  
Then offered up a lily, filled  
With honey-dew, by charms distilled,  
To Cupid, that his radiant wing  
Might ever wave around their King;—  
Since which that rose has never borne  
On stem, or spray, or leaf—a thorn.

And the Editor who had *not* written that shook his head; and the Editor who *had* written it said, "Ah! *your* days for poetry are gone." And then he took up another letter, and opened that, and it was all about what the Christmas number ought to be named, and urged that it should be "Holly Berries," because the northern soil cultivators hang up a bunch of these berries at Christmas, and keep them through-



out the year following, to insure prosperity to their gardens, and poultry yards.

Another letter suggested "The Christmas Lamp;" a third "The Wassail Bowl." That irritating woman, Miss Penelope Pomeroy, wrote at the end of her philippic—"P.S. If you will have a Christmas number, call it 'The Christmas Folly.'" Lastly, a sober "Old Subscriber" wrote—"Name it 'Our Diary,' it's an appendix to 'Our Journal.'" "We might as well call it an Almanack," said one of the spiders. "And why not?" rejoined the other. So they communed together, and were pleasant, and agreed that it should be entitled "The Journal of Horticulture's Christmas Number and Almanac for the coming year;" and that was—

THE BEGINNING OF IT ALL.

## NOTES FROM THE LIFE OF A FERN.

"Everything in nature hath a voice."



**W**HAT I was, and where I came from, was the mystery of my childhood.

I awoke to life, it seems ages ago; poking my nose out of a corner in a huge rock.

"Halloa!" said I, "how did I get here? and who am I?"

I rubbed my head, to try and help out a limited understanding, and in doing so, I rubbed away a tiny nubbly roll of something green.

"You've spoilt your beauty for many a day," said a voice close by, which sounded like a little bell.

"Who are you?" said I, for I felt that I had an inquiring mind.

"I'm your grandmother," said the voice.

"Oh, indeed," said I; "and pray who may that be?"

"Little people should be seen and not heard," said wisdom.

Then I shook myself, and poking my head still further out of the rock, I saw all around me—jammed into all sorts of uncomfortable positions—numbers of graceful little creatures, with quantities of green bells, depending from black shining stems.

"Good gracious!" I cried, touching the mantle of the one I supposed was my grandmother, "how pretty you are."

"Don't touch," said granny, sharply; "you've no eyes in your fingers' ends."

I drew back much ashamed, but presently, seeing a little neighbour who looked good-natured and merry, I nodded,

and said in low tones, lest grandmother should hear and reprove me,—

"If you please can you tell me something about myself? I do so want to know what I am, and why I'm here."

"Ha! ha! ha!" said the merry-looking neighbour; "do as I do, open your mouth, and drink in this delicious spray; never mind if it does make your head feel a little queer; that will wear off as you grow older; it's very pleasant, so drink away; spread out your arms to embrace the sunshine—that's right, eat, drink, and be merry."

Just then up came a huge-looking creature, and without saying "with your leave, or by your leave,"—as is proper in polite circles—he began to scoop me out of the rock, and not only me, but my grandmother, and all my relations, for aught I know, putting us out of sight in a dirty creaky machine called a basket.

"Oh dear!" said I, "I shall be smothered."

"Hold your tongue," said the merry neighbour, sitting down upon me with a flop; "who do you think cares for you? every one for himself."

"Our race will be exterminated," sighed granny.

"What race, granny?" asked I, still bent on acquiring knowledge.

"You should not ask questions, child, it's vulgar," answered grandmother.

Presently I heard a tramp, and a gentle voice said:

"Can I find any maiden-hair fern about here?"

"Not a bit," said the creature who carried us, "it has all been taken long ago, but I have collected a few plants at my cottage if you like to come and see them."

"Oh, thank you; I should, indeed, like to examine them."

We were hurried to a cottage, and the gentleman requested to be seated. Then I found myself dragged out of the basket by the hairs of my head, violently stuck in some soft material, and patted down all nice and tidy.

Then the gentle voice spoke:

"These are very fine specimens, pray where did you get them?"

"Oh, far enough away from here," replied the creature, rudely.

"It is very strange," remarked the gentle voice, and I thought his eye fixed itself kindly on me, "very strange. I was distinctly told I should find specimens of *Capillus Veneris* in these rocks."

"I can't help what you were told, there ain't none hereabouts," said the creature, in the rude rough way I have since found out is peculiar to people who are doing wrong.

"Am I a maiden-hair or a *Capillus Veneris*?" thought I.



Then I shook out my tiny bells, and said as plainly as I could speak, "Oh let me go with you. I want to see the world. You are a friend to me and mine. Take me with you, that I may learn about myself."

I think I was understood, for the kindly voice said immediately:

"I will take six of your specimens, if I may, and I should like this one particularly."

Oh, how my heart beat; how pleased, how triumphant I felt. I looked round at granny, saying: "Now I shall see the world, now I shall know everything."

"When you are as old as I am," said granny, tartly, "you'll be tired enough of gadding; however, good-bye, child, I wish you well, and don't forget you owe everything to me."

"All right," said I.

"Thank you for nothing," sneered my late merry neighbour. "I hope you'll remember I stood your friend when no one else did."

"Ah, well!" broke in a melancholy voice, "I always knew you were born for great things, but no one would believe me."

"Bless me," I thought, "I'm rather sorry to go; I had no idea I had such good friends, nor that I was held in such high estimation."

However, I had no time for regrets. I was pulled out of my soft bed, one of my legs was crumpled up under my body, one of my arms broken, and in this pitiable condition I was rolled up, tied together, and it was dark.

What a long time ago that was, and what a great deal I have learned since then; I often wonder how my head holds it. I'll explain to you, though, how it all came about.

The gentle human voice that broke in upon my childhood so pleasantly was that of my dear friend,—“The Professor,” he is called. Dear heart, how much he knows! I've heard the gardener say, many a time, that the Professor made no more of the “ologies” than he did of cabbages, but turned them inside out, extracting their heart as quickly as a squirrel does a nut; and then he has made a rule of informing me about everything ever since the memorable day on which we became friends. He has the pleasantest way of imparting knowledge, too, making out as though half the information had been given by me.

The morning after I arrived at “Yatton Grove.” I had been put in a nice little home of my own; not large, but “genteel.” The Professor came to visit me. I heard him walk leisurely along; every now and then giving a welcome to a friend in the cheerful voice that had made me his from the moment I first heard it.

When he arrived before me, he stopped. “You like Yatton Grove, do you, my little maiden-hair?” he said. “It is a pretty place enough; and I'll tell you what, you'll hear no lies here. Bad word—lies—is it? Well, if we are so particular, I'll call 'em fibs. Will that suit you?”

I shook my little bells in assent.

“No, but really,” said the Professor, “you were astonished, weren't you? Why, little fern, I saw your graceful head peeping out of the basket the fellow had in his hand. Bad man; hate lies—fibs I mean; we'll have none here—none here,” said the Professor, evidently musing.

“So you're a real Cornish maiden-hair, are you?—a *bonâ fide* *Adiantum Capillus Veneris*,—true species, and no variety? Hem; no such thing—no such thing, little fern.” Then I heard a low chuckle, so full of amusement and so contagious that I began to laugh too.

“Ha, ha, ha!” laughed the Professor. “I am descended from a monkey, am I? That's Darwin's idea, little fern. Well, well; we're an *improving* race, it seems. We must not retrograde, or it might be a little awkward. You think so, do you? Well, we shall see—we shall see.”

Then the Professor moved on; and, recovering myself, I looked up to see what he really was like.

Not tall, nor yet short; well dressed, and not old. He had no whiskers or beard, but his face was so clear, so pleasant to look upon, I would not have had one inch covered for the world.

And so it was in this manner that I had my longings for knowledge satisfied, and that I came at last to think that the truest aim of any life was that of making others happy. I did my best to copy the dear Professor in this particular, and

I put on my brightest looks whenever he appeared, and as this was every morning, I grew at last, by habit, to be what I loved to hear my dear master call me, his “cheery little fern.”

I have said that the Professor came to see me every morning, and at every visit he imparted some knowledge, till at length I felt that really Darwin was right, and that doubtless, before long, I should develop myself into something exceedingly “new and strange.”

I am afraid I did not impart my ideas to the Professor as quickly as I wished. Sometimes I longed to tell him thoughts that crowded my mind, but I felt “my mission is to look bright, and listen to my master.” Then I longed to tell him things that went on in the garden during his absence, but I could not bear to destroy his kindly feelings towards everyone. So when the cook came to have a little quiet flirting, spending, perhaps, just a little too much time about it, I modestly turned my back. And when the gardener forgot to water me, as he sometimes did, I did my utmost not to look thirsty. But one memorable day my reticence was sorely put to the test.

The Professor was very gallant to ladies; and though a bachelor, many ladies came to visit him, and to wander over the far-famed grounds of Yatton Grove.

It was a bright, fine morning, and the Professor had just arrived on his daily tour of inspection, when the butler came into the greenhouse and informed his master that Lady Jones, with another young lady, had called upon him on particular business.

“I will come instantly,” said the Professor, in what appeared to me very cheerful tones. He was leaving the greenhouse, when he turned to me, and passing his hand caressingly over my hair, said,—

“Little maiden-hair, tell me, is her soul as fair as she herself is, think you? Yes! Ah, little friend, how shall I tell—how shall I tell?” Then putting his face very close to mine, he whispered,—“I love her—alas! little fern, I love.”

Here was a pretty kettle of fish! The Professor in love, indeed; whoever heard of such a thing! Who did he love? Lady Jones, or the other young lady? “Time will show—time will show,” said I to myself, imitating, in sincerest flattery, the self-forgetting habit of my friend.

After a while I heard a merry laugh ringing joyfully on the air. Oh, how pretty it was! not loud, yet so bright and clear, so guileless, that in a moment I said, “Yes, yes, she is fair and pure—fair and pure.” Then the party entered the greenhouse, and I thought, “How shall I know which laughed? ah, my master, how to know!”

“Mr. Professor,” said a voice that made me thrill with pleasure, for it came from the sweetest, prettiest lips in the world, and I knew the voice and the laugh were one. “Oh, Mr. Professor,” it said, “I do believe this is a real, true, Cornish maiden-hair; my very own little countrywoman.”

“Are you Cornish?” asked the Professor; and I heard the dear voice tremble.

“Really, Jessy,” said the stouter lady of the two, with a nasty short laugh which had a dash of derision and a false specious hilarity about it, “you must not engross the dear Professor's time, he is going to explain to us the internal structure—”

“Oh, not to-day, Lady Jones; please, not to-day,” said my master; then turning to Jessy, he said, “Wait here one moment. Excuse me, my lady,” and he vanished.

“What a horrid old bore!” said my Lady Jones; “who cares a fig for his stupid explanations or his rubbishy plants. If he does not give me a right-down good bouquet, I'll never come flattering him up again; see if I do. Ha, ha! it makes me long to laugh out loud to see how he swallows all I say. I declare, Jessy, I wish he'd make love to you instead of to me.” With that she whisked round, and, lo! my house was a ruin, and I a cripple beneath the wreck.

“Oh, Carry, Carry, see what you've done, and the good Professor does love his plants so much. Oh, I am so sorry!” and down Jessy knelt, and without staying to take off her delicate kid gloves she raised me up tenderly.

“I think it must have been a sudden gust of wind, dear Professor,” said my lady, as the Professor entered the greenhouse, bearing a magnificent bouquet and one single separate frond of—mayhap it was an aunt or a cousin. “I am so very,





very sorry; for I think I love flowers as much as you do. Ah, Jessy! thank you, darling;" and she held out her hand for me, as if she had suggested to Jessy the raising me up from my perilous position.

The Professor thanked Lady Jones with marked courtesy; but I noticed he intercepted her hand, so that he received my poor bruised remains from Jessy herself, and as he did so he gave her the one frond of fern, saying, "This is from Cornwall, I found it myself."

I saw a bright blush on Jessy's face, and I heard the Professor say in a voice audible only to me, "I wonder—oh, I wonder!" Then they passed out; and, oh! how I longed to tell my master all I had heard, for he soon returned and placed me in a home much better and prettier than my last; and as he doctored my broken limbs, I heard a soft murmur of—"She touched you, little fern, she touched you, and I love her; but, oh! I wonder—I wonder."

I knew what was passing in his mind, so I rang out my bells, and made them say as distinctly as ever they could, "Fair and pure—fair and pure." "Yes, yes, I think so," said the Professor; "but who can tell—who can tell?"

After this morning I found myself the special object of the Professor's care. I was shaded from the sun; put out of doors to inhale the sweet showers; and every day I learned more and more of my dear master's heart. Can *no* one amongst men answer the question, thought I.

"No, no," said the Professor, "I must wait; I must be patient, little fern; but I love her."

Well, not many days after this there came on a sudden soft shower, and the Professor came out so hurriedly to give me a taste of it, that I saw he had actually forgotten to change his slippers, he who was always so extremely neat.

Just as he had set me down by the side of a bed of choice pansies I heard the joyous laugh. My master hurried behind an arbour close by, for not even to see Jessy would he consent to be found in *déshabille*.

Lady Jones came up and caught sight of the pansies.

"Oh, how beautiful!" said she, in real admiration. "Hold my parasol, Jessy; I must have some cuttings, and the old miser never offers me roots, only his trumpery flowers."

"Oh don't, Carry, don't," said Jessy's sweet voice. "Oh, it is really sinful; indeed, indeed it is."

"Preaching?" said my lady, in a sneering voice; "preach to your dear Professor if you like, you are always praising and quoting him, but I'll trouble you not to interfere with me. There!" she said triumphantly; "now I'll just pop 'em in my parasol, and who'll be the wiser? Ha! ha!"

"Carry, you are too wrong," said the low earnest voice; "I cannot bear it."

"Stuff and rubbish," said my lady; "don't be a goose, but come on."

So they passed into the house, and after a time they returned, accompanied by the Professor. I noticed that he was very pale, and that he walked close to Jessy, but his step was firm and determined, and though pale there was a look in his face I had never seen before; a look of bright intense happiness. When they came near me I saw Lady Jones look aside, but the Professor would not let her escape.

"Oh, do look at my pansies," he said; "I am sure your ladyship must admire them."

Jessy turned deadly pale, but my lady only laughed, saying, "Yes, indeed they are pretty."

"You must allow me to give you some," said the Professor. "I will take you some slips in a moment, or would your ladyship do me the great favour of helping yourself."

He would take no denial, so my lady stooped to gather, and in so doing her parasol flew open.

"Bless me," said the Professor, "why I am only adding to a collection." I saw Jessy look pleadingly at the Professor; he turned aside to allow Lady Jones to recover herself, and I heard in the faintest whisper, "Jessy, Jessy give me heart-ease."

Did she understand him? I heard no more, but I missed my master all that day, and the next morning when he came to the greenhouse, all he said was, "I never doubted her, little fern; never, never."

"Fair and pure, fair and pure," said I, as fast as ever my bells could ring.

"Little fern," said the Professor, while a tear fell upon me, "she will be like God's blessed sunshine to us all. Yes, yes, like sunshine."

When these words fell from my dear master's lips, I felt that my mission was accomplished; that the love of the "cheery little fern" would be perfected in the pure true love of woman; and as my master turned to leave the greenhouse, some idea of the same kind must have crossed his mind, for he whispered tenderly, "Poor little fern; poor maiden-hair."

I looked up as brightly as I could; still brightly, though I had learned so much as to know that from the inevitable there is no escape. Nor did I wish it, for there was shining in my master's face a light too bright for my feeble life to have placed there. He touched my hair as caressingly as in olden days, but all he said was, "My very own, my Jessy."

From that day I saw but little of the Professor, and after a



while he disappeared altogether, and I heard rumours that he was gone abroad, but these rumours seemed to fall unheeded on my ear. I took no note of time, till one bright autumn evening, just as the sun was setting, and I was wishing that I too might sink—borne on the sunny rays—down, down, far away in my beloved west, when all at once I awoke to life, to hear, as in a dream, ringing, oh, so joyously on the evening air, the happy laugh I knew so well, and a voice—perhaps dearer to me now than ever, because I felt I was listening to its tones for the last time—say, “Oh Jessy, darling wife! look here, my little fern is dead.”

FELIX FEMINA.

## CHRISTMAS IN THE FENS.

### CHAP. I.—OPEN WEATHER.

**D**O any of my readers know the fens of Cambridgeshire and Huntingdonshire; or, I should rather say, did they know them five-and-twenty years ago, before they were opened out to the rest of England by means of railways? for though drainage did much to alter the fens, yet the iron-horse has done more: the former changed their outward appearance, the latter changed their inhabitants.

The fens—“chilly subject” you will say, dear reader; “nothing to warm one this Christmas time.” Wait a wee, and let me see if, out of the recollections of the fens of my boyhood, I cannot jot down something which will, at any rate, amuse you this dull winter time.

By the way, I am right glad when the dream of a Christmas number disturbed—no, came like a pleasing vision across—their slumbers, that our editors kept to the idea of a *Christmas* number. Christmas I like, and the one fault laid to its charge—viz., having anything to do with bills—ought to be removed for ever, for it is all a mistake. Christmas bills, indeed! they are New Year’s bills for Christmas Day, and Christmas weeks come and go, but not a single bill appears; while no sooner has that chilly new thing, born on January 1st at fifty-nine minutes and a-half to one o’clock, A.M., made its appearance—that thin, thoughtful baby—but rat-rat goes the knocker, and those vulgar yellow letters appear. Why the colour of their envelopes is enough to turn any one bilious, to say nothing of previous Christmas feasting. So let us never hear again of one single Christmas bill; it is all a misnomer. Christmas has no dismal thoughts connected with it. Old Father Christmas is a jolly, rosy, strong, mirthful, mirth-inspiring rogue, given to

“Quips and cranks, and wanton wiles,  
Nods and becks, and wreathed smiles.”

The fen district of England I cannot think of without venerating the memory of the mighty men of olden time, who wrought noble deeds there; men who went out and did battle against the water in the then inclement aguish fens. These brave men fought against the water there hundreds of years ago; they banked it out, drained it out, cut mighty canals, built vast sluices, but in it came again; the dreaded flood appeared some winter’s morning: it came sweeping on, breaking barriers, but man fought away against the mighty antagonist. Among these brave men the greatest of all was Cornelius Vermuden. Charles I. reigned, and lost his head. Stern Cromwell fought and ruled, and grew timid and died. Charles number two, hid up in an oak, listened to long Puritan sermons, reigned, and lived most unpuritanically. What cared old Vermuden about these things; he had other employment than to mingle with politics; he fought against the water; and although he was not able to do all he wished, and I fear died very poor—perhaps, too, broken hearted—still he did much good in the fens, and has left his name there; for take up a map of Cambridgeshire, even the most recent, and you will find “Vermuden’s drove and drain” marked on it. Drove long, straight, wide, and in summer grassy roads; but, oh! in winter black, soft, unsafe ways, up to your horse’s belly if you did not know exactly where to

ride. When the fen farmer anticipated a speedy “dishun to the family,” and he had to turn out of his bed—of course on a moonless night—to fetch the doctor, he mounted his old cart mare, both sorely troubled at the disturbance, and had to go, say, six miles. When he arrived at the door of that most useful but ill-paid servant of the public, called the country surgeon, he rang the bell, with an accompaniment of small stones at the window, to wake up the doctor more speedily.

The doctor soon awoke; the stone shower was not needed, for he slept through any other noise, but the least touch of the “night-bell” awoke him; while, on the other hand—such is use or instinct, or what you please to call it—his wife never heard the bell, and her husband has been known to go out and return, she peacefully slumbering on; but the least movement of the babe in its cradle beside her, the child’s “coo” at the night-light, or its little hand picking at the pink lining over its head as the light of the early morning broke upon its young bright eyes, at these sounds she awoke at once. Well, the doctor is mounted, but how does he ride in safety along the treacherous black drove? In this way: the farmer in front carries the doctor’s lantern, but that was not all; from his old mare’s tail he attached a halter to the bridle of the doctor’s horse, and owing to this contrivance they jog on safely.

This reminds me of an old story. A relation of mine was, about fifty years ago, journeying from Cambridge to the fens, and when he got into the black country, especially to a bit of road which lay between two parishes, neither of which would repair it (it was a dispute of long standing), his courage began to fail him, as he found his horse sink deeper and deeper, so he must needs dismount, and try walking; but he began to sink deeper and deeper, to the imminent peril of a new pair of galligaskins. Talking of his perils the next day, with true townsman’s horror, to a company of femmen, one old webfoot (they do say fen children in those days were born webfooted) said, amid puffs of tobacco, “Oh, sir, that’s nothing to what happened to a poor gentleman once when coming through the black country. He was riding in the middle of the drove, and saw on one side a man’s hat, and as it seemed a good one, he got off his horse to pick it up. He seizes the hat, but lo! beneath it was a head, and a faint voice said, “Oh, pull me out; I’m nearly dead.” This he did, but his new friend said, “Don’t go, please; now help me to pull out my horse, for he was under me.” This was a fen story; you may do as you like about believing it.

In summer it was awfully hot in the fens, such scorching, with not the least shade to be had; a sort of black Sahara. But we boys liked it; there was plenty of birdnesting—i.e., of birds who built on the ground; and as to fishing, it was our Saturday afternoon’s amusement for months.

But winter was, I think, the time; true, we chiefly depended upon ourselves for our pleasures: there was no travelling, no excursion-making. Sometimes, indeed, amid a great flourish of trumpets and display of handbills, a coach to London was started; at first it was fairly loaded, then gradually it came down to be the coachman’s private carriage, and then it soon ceased to run. What did a fenman want to travel for; he would have echoed the rustic bard’s lines:—

“Let vouldes go sarching fur and nigh,  
We bides at whoam, my dog and I.”

Then, if fenmen did not go out—well, they were likewise not troubled with people coming into the fens from what was called “the high country.” The high country people thought of the fens as King George III. did, “Ah, ah, ah! fens, fens, fens; all fogs, bogs, and ague.” So the fen people kept to themselves, married among themselves, talked their own talk, and went their own ways; names were few, but many of one name, so nicknames abounded, such as “Long Tommy,” “Short Tommy,” “Fat Billy,” “Thin Billy.” If a clergyman from a distant county had a living given him in the fens he felt sorely out of place. As the livings were often good he became non-resident, or shut himself up in his study, and wrote letters to his friends, telling them he had nothing but earth and sky to look at. Poor man! but what a sky—what a study for clouds—Oh! ye painters. The population of the fens was very scattered. Some farmhouses very poor places, but on the Duke of Bedford’s vast estates, the houses were excellent; but as a rule, the gentlemen farmers lived in the towns, and mounted on fine, well-groomed horses—they





were excellent judges of horseflesh—might be seen at an early hour, one after another, "going farming," riding out of the different ways leading to the fens.

Fen society was peculiar; no large landholders resided there. "The Duke"—we knew of no other duke—lived at Woburn. Gentry, properly so called, there were none; hence, clergymen, as a rule, were the magistrates; a bad plan, but how could it be avoided? Gentlemen farmers, owners, or large renters, were the upper class, not over educated certainly, but hearty good fellows, some of them apt to sit a little too long at the market-table; while the lower farmers were, as a rule, lower in all respects. The fen labourers who were employed at drain or dyke work were called "bankers;" and by drain I do not mean little narrow ditches (you would need a leaping-pole to jump them with), but broad dykes full of dark brown water, not muddy, but dark from the black peaty sides and bottom. In these long, straight drains the pike darted, or slept in the sun. The drains ran along the wide drove, while fields to the right and left—little squares of a few acres extent—reached from the drove by bridges across the main drain, and each field surrounded by its ditches full of sluggish water. Windmills and watermills abounded; you might stand and count thirty or more within sight. There were no enclosures a quarter of a century ago; here and there a row of ancient willows, grey stemmed and pollarded each season, might be seen hanging their queer, cut-short heads over the drains. A farmhouse, too, was not unfrequently marked out to the eye by a row of poplars in front of its garden; but elsewhere nothing to catch the eye save the beautiful church spires which abounded, for the fens are rich in churches, or perhaps there rose before the eye the massive forms of Ely or Peterborough Cathedrals, which you appeared to see from the lowest tier of stone to the battlements, for there was nothing to hide them.

From the fen "bankers" came originally the now universal English navvies. These bankers had for generations been accustomed to cut out with their narrow spades, and cast up the blue clay, and so were ready and fit for railway making. They were a rough, drinking set, many were followed everywhere by their brindled bull-dogs, the courage of which dogs they were accustomed to test in puppyhood, by fastening them through the ear by a dinner fork to the edge of the ale-house table; the pup that squeaked, or showed anything but his close-shut teeth, was doomed to be hung. The bankers fifty years ago were great customers to the doctor at spring and fall in an odd way. They fancied that being bled, or, as they called it, being "blooded" periodically did them a world of good. So they came in

crowds to the surgery on a Sunday morning, their leisure time, and stood in rows, leaning against the wall, watching the operation, and waiting each his turn; or they were outside chatting in groups. The most were lengthy tall fellows; their dress peculiar—red cotton neckcloths, wondrous smart waistcoats, short slops, mere round jackets, corderoy breeches, and rough home-knitted blue or speckled stockings; but on a Sunday morning was one mark especially—their high water-tight laced boots were unlaced, and very slovenly they looked. Here and there a dandy among them would have Sunday boots of a thinner texture, but of similar make, and these brightly polished and neatly laced. Short pipes were unusual, they better liked the long pipe of the public-house kitchen. They loitered about the streets all Sunday morning, hands in pockets, or stood at the idle corner, watching the people going to and returning from church. In the afternoon the older and steadier men were wont to attend church, sitting in a deep gallery by themselves, "the poor man's gallery," it was called; and a fine sight it was to see them rise to sing the evening hymn. The women sat in an opposite gallery by themselves.

This strange population is now strangely altered. The bankers are navvies, and have emigrated—the fens are drained. That was a remarkable Sunday morning when, owing to Telford's genius in deepening the outfall, the sluggish waters in the drains began to run. The people and parson, too, it is said, ran out of Thorney Church—properly Thorney Abbey—to see the wonderful sight of the waters on the move though many miles from the sea. Trains now cross and recross the fens; fenmen travel as much as any men; the lands are in parts inclosed; the last-left great inland piece of water "Whittlesey Mere," that long defied the engineer's skill, is now dry, and like other fen land, its bottom sends to London market good corn, or grazes fine bullocks. No more decoys on the mere to entrap the wild duck, the flights of starlings are diminished, and reeds, once the universal roofing of the houses, cannot now be procured. Yet let me revive for a few moments the past, and speak of a winter's day on the ice.

#### CHAP. II.—FROZEN HARD.

"Have you heard, Harry," said the doctor to his son of twelve years old, "that there are to be races on the mere to-day? Lord Fitzwilliam (the doctor liked my Lord, and his Lordship's hounds, too) has given ten guineas to be run for, and the Milton ladies will be there on their sledges. The great Cowbit runner came to town last night, and there



will be the best skating these many years, for the ice is firm, and in rare order. You shall go, my boy. Neighbour Wigmore, who skates well, will let you go with his party; indeed he told me all about it. You shall go, my boy, for it's Christmas week, and I will ride round and see the fun after I have visited my patients. You shall go, lad."

"Thank you, father." (He hated to be Pa'd.)

The doctor had just got another horse. His wife declared (what will not wives declare!) that he had a new steed every month; that each was an angel the first week, a good nag the second, "hang it! rather shy" the third, and "a brute" the fourth. Well, a doctor is tied by the leg to his profession, and as he cannot get change, it seems but fair that he should have a change of steeds. Besides, the doctor had an account book, which showed that at the end of the year he was gainer rather than loser by horse dealing.

"Eat a good breakfast, my boy. Here's another rasher of bacon; it came on a dead horse," i. e. it was brought instead of money by some honest cottager to liquidate his debt to the doctor. However, there was one man, a blacksmith, who always got over the doctor. The man's wife was frequently ailing; besides, she presented her husband each year for a dozen years with that kind of "comic annual" called a baby, but the fellow never paid the doctor. It was always the same quiet gentlemanly manner and phrase, "You, doctor, do the best by Mrs. Stonely, and I will do the best by you." This coolness, and a certain likeness he bore to a cousin of the doctor's, always softened the good man's heart, and he did the best for Mrs. Stonely, but Mr. Stonely did not do the best by him, never paying him one shilling. But to our tale. The morning was bright and clear; there had been snow, but not deep; no need of much sweeping, much less for digging the paths. Harry was soon off; he

right across the drove." The crowds were wending the way towards which the mere lay. Some riding, more in gigs—three in a gig, that uncomfortable arrangement; but the majority were going to skate there, for fennemen could all skate. Many had first put on their "pattens"—local name for skates—by the fire, and learned to stand in them on their mother's wash-tub.

Skates in hand, with neighbour Wigmore's party, Harry started off, with comforter round his neck, and tacked into his buttoned-up jacket, but no great coat on; such wraps were for muffs who rode or walked, poor fellows!

Harry listened with eager ears to the remarks about the chance of winning which the champion runner of his town had, —one Bellmore, a rosy-checked and quiet labouring man, quite a nobody, except when there was frost, then he became a hero, or at least a notoriety. He was one of a large family, and had an uncle who bore a bad character for pilfering; he was the black sheep of the Bellmores. This fellow was entering an orchard through its hedge, with a design, doubtless, upon its apples. However, the farmer was on the watch, and as Bellmore got safe through the hedge, the farmer called out—"Where are you going, Bellmore?" The cool knave replied, "Back again, sir, now I see you." He was for ever after known as "Backagain Bellmore," to mark him from the thirty others of the name.

The mere could be reached on the ice by two ways,—one by the river (itself, indeed, a huge dyke), this was the longer way,—the other by the fen drains. The latter Harry's party chose. The skates are soon on, and off they go.

"Why, Mr. Wigmore, if there's not old Asthmatical Tom out bird-catching, as usual," said Harry.

On they go, along the straight drain, having, however, to walk across the bridge, which was a nuisance. There were six of the party, close following one another, stroked by stroke, and each stroke taken by each skater at the same time.

"Oh! how my feet ache, Mr. Wigmore."

"Never mind, Harry, that will soon wear off."

"Do stop, please." "No; we shall be late.

Be a brave boy." They reach the end of

the long drain, and have to walk across a

wide road to get to the "Leam." "Leam!

What's that?" says my good reader. Well,

friend—for so I will deem you if you travel

patiently with me to the end—you will not

find the word in any dictionary; but in the

fens are many words of peculiar sound and sig-

nification. "Leam" is a large dyke, the width of

a canal, cut probably by the early Dutch drainers.

This leam,—but Harry found it awkward work

to walk across the road in skates to get to it, to

tering, foot-aebing work, and some distance,

too. At length the "Leam" is reached, and on

the smooth ice glide the party, while before them,

beside them, behind them, are numerous other

parties skating away as only fen men can skate.

This "Leam" was a rare place in summer for

catching bream,—"Bellows Bream," as they

were called, from their shape somewhat resem-

bling and size nearly equalling that of a

pair of bellows. Another road to cross, another

dyke to reach, then crossing from dyke to dyke. (Oh,

those horrid low bridges, straight and flat, which no one

could get under.) Oh, that horrid walking in skates. "Come,

Harry, the races will have begun." "What's that great wood,

only they don't look like trees, Mr. Wigmore?" "Why,

boy, that is the mere; and that thick wood, as you call it, is

aeres upon aeres of reed that grow round it. Put on a spurt,

Harry." And the boy did; and soon the reed forest is

entered by a narrow ice path, some way which, being flooded

and frozen, afforded an entrance to the skaters.

The reed stood high above head, and, growing close and

straight, looked like some monster field of corn in "Brob-

dignag." As the wind whistled through it, and brought

bits of frozen snow from the tops, and the reed swayed gently,

now this way, now that, it sent forth a strange, shrill, piercing

sound. This reed was a great source of profit to the owners.

It supplied the best covering for houses,—neat-looking, warm

in winter, cool in summer, so unlike the thin cold slates, but



first flew his Tumblers, though. He found the whole town was alive with the thoughts of the races which were to be on the mere, some miles distant. The men who went about with turf carts every morning—the poor did not buy coal, but turves (dried peat), each about the size of two bricks—told their customers about the races while they stood beating their hands across their breasts. And the old women, handling their three pennies (good old cart-wheel pennies), told back of the races when they were young. "It was the year, bless you, poor young Spicherley was drowned, &c., &c., &c." Few were the farmers seen going farming that morning. Only a few old fogies crept to the reading-room—for there was one even in those days—but very dear, very poor in papers and books, and very exclusive. The male population, man and boy, were going off to the mere. Harry heard such remarks as these: "The frost 'ill last, for didn't you see the wild ducks fly over the town yesterday afternoon?" "Aye, bor, and I seed a sea-gull; he wor flying





which attract the sun, and make a house most hot when we want it most cool. One fault it had; in case of fire it was food, ready and prepared for the devourer. But in those days we slept secure; as were our neighbours, so were we,—equally exposed, but equally careless of what might happen.

The skaters at length pass the reed-belt and reach the open frozen mere, and no contemptible size was it,—I suppose nearly three miles by two, and with its deep fringe of reeds it covered a very large space. The crowd Harry saw were gathering to a centre, where tents and flags bespoke some business to be going on. Hundreds of people were already on the mere, and hundreds more were issuing from the different inlets. The frost had been continuously severe, so there was no danger. Sixteen runners had offered themselves, and they are to run in pairs. The long course is cleared, and the first pair start, each man cheered by his friends. The runners wore gay silk handkerchiefs on their heads, and stripped to their shirt sleeves; some of them wore a tight-fitting flannel dress. As to the first two, one was manifestly superior, so the interest speedily flagged. The eight races are over, the winner of each is to receive a share of the prize. Then came the four, then the two, and then at length the great race between the two best men. Here is our friend Bellmore, the other the noted Cowbit runner. Each man is determined to do his very best. Bellmore smiles and looks confident with his good-humoured face and merry hazel eye. 'Tis said he has been training hard, and living high: nothing less, they whisper, than slightly-cooked beef-steaks and other good things. The Cowbit man is of altogether a different build—a tall, sallow, dark-haired man, long in leg, neck, and nose—a very wiry fellow, with such a long stride, though critics notice he has not the leg and loin of his antagonist.

Off they start, amid a dead silence of attention. The Cowbit man shoots ahead, and soon is far ahead; he surely flies on skates. Bellmore goes at a terrible pace, as those find who try to keep up with him, but the pace is altogether inferior to that of his opponent. Bellmore had an odd fancy to have his skates tied with stout tar string instead of straps,—he said they stuck closer together; and he was no dandy, but a plain labourer, or rather miller's man, and what sacks of corn and beans he could carry! The Cowbit man has turned the corner, but surely they are not quite so far apart now. Bellmore is round too, and both meeting a strong wind. The smaller man bends low; his stature is in his favour now, and so is his terrible lasting strength. Surely he is gaining: the Cowbit man's pace is not what it was, and the wind mauls him terribly. Harry is awfully excited, stretching his little neck to see the race, while the shouting is fierce and loud.

What! the men are nearly abreast. The Cowbit man is cheered vociferously by his friends—fierce, determined shouts; while Bellmore's are afraid almost to cheer, lest a breath should hinder him or take off his attention. They are now neck and neck, side by side, stroke with stroke, but 'tis the Cowbit man's last effort, he is done up; he has not the stamina of the short Saxon, who glides on smiling now with all confidence, but at so rapid a rate that he is caught in the arms of his friends many yards beyond the winning-post. As to the Cowbit man, blood is seen trickling from his ears and nose. He is terribly exhausted; it is doubtful if he will ever race again. Harry is highly delighted, for does he not know the hero of the day; had not Bellmore nodded to him that very morning. He is charmed, too, with the sledges, and one or two ladies who skate—now-a-days, happily, there would be more.

But the brief bright winter day begins to decline, and friends had in the crowd got separated. Harry had lost his party, and as the multitude is thinning, he bends his way, as he thinks, to the part of the mere at which he entered. But, poor boy, he is wrong; he has not noticed, boy-like, the one guide to positions on the mere, viz., Yaxley Church, so he comes out at quite a different place. He feels somewhat alarmed; but evening will soon be upon him, and what if he did not get home that night? Still, even in his alarm he cannot but pause a moment or two and listen to the sound; he turns and looks back upon the mere. It will be the last time there will be races there; for that far-famed piece of water, in which was lost the great bell on its way to Ramsey Abbey, will be drained next spring. The plans are all ready; the engineer is quite confident that he can do away with the last remnant of the fens, their last lake. "Horrid man!" ejaculates Harry, "no more decoys, no more wild ducks in flocks, no more reeds, no more great flights of starlings, almost darkening the sky; and worst of all, no more races on the ice." Harry wishes that engineer—

"A cravat with a drefle tight twist in it."

He was a thoughtful boy, and he was tired, and the excitement over; both which things conduce to contemplation. So he paused and listened to the sound of the hundreds of skaters; the rumble and roar as of a sea, but broken in upon by the merry voices. Through the reeds and up a river, but where is Harry? Why, he has come out on the Farsett side of the mere; for him the wrong side. The boy is now tired, and cold, and hungry, utterly done up, and hangs on the coat-tails of a skater who pities his weary condition. But soon he is too tired to get any further. So coming to a farm-house, he takes off his skates, and as he gets near hears from within many voices, which cheer our somewhat down-



east hero. Having knocked timidly, he asked still more timidly for something to eat, a bit of bread will do; and will they tell him the way home. The servant-girl looks thunder and lightning at Harry; the former from her frown, the latter from her eyes; and goes straight to her mistress with—"Please, mum, here's a young gent—leastways he ought to be a young gent by his clothes—who wants some food and to be shown his way; but, mum, I think it's a boy them Lunnun thieves has brought (Jack was a-saying in the kitchen, he saw a lad who saw a lad what told him they was coming to the races) to put through the dairy windy, when they will break into the house; and he's come to find how the front door be fastened. Please, mum, may I set the dog on the young varmint?"

The mistress stared, the company stared, too; for it had been said before all assembled. The farmer muttered a "bother the girl!" and went to investigate matters himself; and being a better judge of character than the damsel, and being moreover in a very good humour, he soon saw how it was and brought the boy in. "Why, Harry, wherever are you come from?" said a gentlemanly-looking, flaxen-haired, middle-aged man, with florid complexion and bright kind eye—a surgeon all over. "Oh, Mr. Cust, I am so thankful to see you." This Mr. Cust was Harry's father's great surgical chum (for, by-the-way, doctors in the same town hate each other like vipers; 'tis terrible how they quarrel sometimes, and their wives oftener). A few words of explanation follow and Harry is welcomed at the table. "Now, my lad," said the farmer, "tuck into that goose, or shall it be turkey, or fowl, or pigeon-pie? None of your butcher's meat for me, young gentleman; none of your mutton from sheep that died of their own accord; I'm a poultry fancier, that I am—ha, ha, ha!" and the farmer laughed, and as he laughed one lost sight of his eyes; and his bald crown seemed to laugh, too, so bright did it look as his head shook. Harry ate and was thankful. "Well," said the farmer, "I was just going to tell you about that brood of duckwings; well, I was done again, only two cocks out of eleven eggs. But the old woman shall never pick her eggs again; it shall be guess work, it shall; she knows what eggs will hatch pullets well enough, and my bargain was, she to have the pullets, and bring up the young cocks for me; but she shall never pick her eggs again, not she," and then the farmer laughed one of his glorious laughs.

Mr. Cust had twice looked at his watch, and—thoughtful man—family man he was, too—he began to think of the anxiety which Harry's mother would feel as night came on and he not appearing. "Come, doctor, you must not go yet, I want to show you my new fowl-houses. Fowls are looked down upon now; but mark my word, if the cattle should ever run short and meat be dear, then the value of fowls will be learnt. Poultry are looked down upon as poor paying stock, but I can prove they do pay, and may be made to pay by anybody." "I can't stay longer, Mr. Summerly; I can't see your new houses to-night; indeed, I have staid too long already; but I drove round to see my old patient, your good wife, for I heard she had been ill. Ah, Mr. Summerly, you did me a good turn when I was in practice nearer you, and I hope I feel grateful. Why, dear me! here's my young friend fast asleep." Harry had been caught nodding. The doctor's gig (there were no dog-carts in those days, and four wheels would have speedily been two wheels on rough fen roads) was soon at the door, and Harry tucked in comfortably and invited to come again, "and the girl shan't set the dog on you, or take you for a young thief," said the farmer slyly.

On they drove, Harry blessing his stars that he had done with skating and walking for that day, and in an hour or so he was deposited at his father's door. Maternal anxiety is now over, and Mr. Cust thanked; and Harry is soon in bed and fast asleep, as his mother had seen before she left him. She had stood and listened to the steadily drawn breath, and looked on the closed eyes—"tired eyelids lying upon tired eyes"—and she had admired the boy's auburn curls as they lay crushed up on the white pillow; and she blessed him, her only boy left, and thanked the God who had brought him home safely.

Harry slept and dreamed—no, boys seldom dream—with them it is one long sleep from five minutes after getting into bed to five minutes before getting up.

WILTSHIRE RECTOR.

## THE GOOD OF OUR PETS.



WE like the term Natural History for the study of animal life. It is a natural study, and almost from the earliest periods of our lives we have recollections of some pets. We do not believe the child first catches the fly for the sake of pulling off its wings; it is for the sake of possessing something weaker than itself—something it can patronize and protect; then, having caught it, it plays with its subject just as the cat does with a mouse. Did you ever

notice this last operation narrowly without, in imagination, becoming the victim of some *generous* lion or cruel tiger? "I have seen," says an Eastern traveller, "the lion take a small ox, jump a high fence with him, throw him over his back, and go off with him without an effort." A man who was rescued from a tiger describes the animal as having taken him through the shoulder, and carried him easily into the jungle, stopping every now and then, and "purring" round him like a cat. Just look at the cat as he enters the room with a mouse in his mouth. See him with his tail erect; notice the dignity of his step; and, arrived at the spot he meant to reach, see him deposit the poor panting animal between his paws. He allows it to run away till close to a refuge, then all the spirit is aroused, and he bounds after it, returning triumphant. Then he pretends to have lost it; then he lies down on it. If it becomes faint he gives it a small bite in a non-vital part; and when all power ceases, then he eats it. Fancy two hours in a jungle, "far removed from noise and smoke," under similar circumstances.

The almost infant catches the fly, and loves the dog, cat, bird, or other domestic animal.

The eminent philanthropist, Charles Sturge, has an institution near Birmingham for the purpose of reclaiming convict boys. Many of these are very Pariahs, workhouse boys, English Bedouins. There are many such in London. Those who are in the habit of rising very early can tell of these white sons of Ishmael: how they sleep under the dry arches of the bridges, the porticos of churches, the covered doorways of large houses, and the clumps of evergreens in the Green Park. Many may have admired the beautiful engraving of the stag rising from his lair: the vigour and truthfulness of the uplifted head and open nostril, snuffing in the fresh morning breeze; the partially curved back, preparatory to the stretch that shall restore the cramped limbs to their freedom; and his *breakfast waiting for him*. Did they ever imagine these cockney Arabs, as they emerge from their lairs—growing, healthy, hungry boys. They stand erect and stretch; they shake the rags that serve for clothing, they go to the nearest pump and wash, and then they look around them. They are right hungry, but *they* have no breakfast waiting. It is a trying position to have a good hard-working, natural appetite, and nothing to satisfy it. It is difficult to understand one like this in a metropolis overflowing with wealth and food, all kept from him. We are afraid it is not hard to imagine that such an one, who has never had a kind word spoken to him in his life, should think little of a society that seems only to spurn him. He wakes, and is hungry, but has nothing to eat. It is not the figurative nothing of the systematic, who have their hot-water punctually at half-past seven, and breakfast on the table at eight—*only* toast and bread-and-butter, and cold beef; not an egg nor a broil; positively nothing for breakfast! Every day that our young Arab prowls about the streets in search of breakfast he becomes more and more hardened; he does not dread prison, as he is there clothed and fed. Prison is the result of stealing, but by stealing he can pacify his hunger, and he does so. He is not careful to escape; and in this class are found the youthful cynics, who quiz the judge while he passes sentence, and ask for increase of punishment. He goes to prison, only to become worse. It is no exaggeration to say many of these





"The sailor stripped to his shirt, looked at his pistols, and loosened his entlass. He then entered the thicket, throwing





stones as he went. Soon were heard two shots, and then a continued hacking, and lots of those 'funny words' that Ingoldsby says sailors use. Then the sailor came out; his shirt was torn from him, his back was deeply furrowed with claw marks, and he had evidently been bitten through the shoulder. 'Come down, blackie, I have killed the tiger.' The blackie looked down, and, seeing the sailor streaming with blood, grinned, and said—'Don't look like it.' 'But I have, I tell you.' 'No one will believe it without you bring his head.' 'True,' said the sailor;—'something to learn from a nigger.' He went in and returned, bringing the head. 'Any drink to be had?' 'Lots, now you have killed the tiger.' And they went to a drink house. The sailor poured quantities down his back into the wounds, and still more down his throat; when, overcome with fatigue and rather faint, he leaned his head on a table and went to sleep. The black rolled the head in part of his turban, and went to the village, where the head man of the country sat daily to administer justice; or, as some of us know who have the privilege of serving on juries, 'on behalf of our Sovereign lady the Queen, to do and examine such things as shall then and there be brought before you.' Among other duties he was to pay the reward to any one who killed the man-cater. 'Well!' said he, as the black entered, carrying a large bloody bundle; 'well!' The black salaamed. 'I have killed the tiger.' The head man looked well at him; he did not look like one to undertake such a feat, much less to accomplish it. 'What proof?' said the Governor. 'I have his head.' The Governor sat on a small raised platform, approached by three or four steps. 'Come here,' said he to the claimant. 'Do you see my beard?' 'Yes.' 'Do you see that long white hair?' 'Yes.' 'Pull it out,' shouted the head man. The blackie approached timidly, and was about to touch it delicately with the tips of his fingers, when the Governor snapped at him with his mouth. 'Oh!' screamed the black, and jumped off the platform. 'Look that man up,' said the chief, 'he did not kill the tiger.'

"Some time afterwards the sailor came. 'Justice,' he said, 'I killed the man-cater, and a black fellow stole his head.' The chief put him to the same ordeal as the black. When the sailor was told to pull out the white hair, he laid hold of a handful, and when the head man snapped at him, he doubled his fist and knocked him down. As his attendant picked the great man up, he said, 'Pay that man, he killed the tiger.'"

A trifle will sometimes save a life, or throw a party into consternation, and these trifles may be the work of the smallest and most despised reptiles. During the most sanguinary period of the French Revolution a nobleman was flying from his pursuers. He was hard pressed; he entered a house, and crept into an oven. His pursuers entered almost with him. "He must have gone into the oven," said one. "Impossible," said another; "here is a cobweb across the mouth of it." In the instant a spider had spun his web at the mouth of the oven. A friend of our's, a great observer of natural history,

wished to solve a doubt. He had been told that when birds of prey have young only one parent feeds. He lived in the north of Scotland, and had an eagle's nest in some rocks on his estate. He waited, and shot the female bird. He watched narrowly; the male was constantly backwards and forwards with food. The young were constantly crying for two days. The parent still brought food, but there was no sound from the nest. He got up to it and found the young ones dead, surrounded by lambs, hares, rabbits, and everything eatable. The male brought the food, but did not feed. Men become so interested in the pursuit, that when they are astride their hobby they are apt to forget the "convenances" of society. An old enthusiast was the lion of a conversation, held at the house of a lady, the wife of a millionaire. The entertainers had little sympathy with talent or intellect. The master was proud of his wealth; the mistress, of the faultless condition of her house. The one could lend them a trifle; the other could invite them, and, as she said, "trot them out." Our enthusiast was a celebrity—and deservedly so. The

hostess brought him into the room, and he was soon the centre of a circle, where natural history, and the instinct of birds as compared with the reason of man, formed the subject. He enlarged on it, and spoke highly of the quality of their instinct. He looked round for an illustration. "Take, for instance," he said, "that cobweb in the corner of the ceiling. The spider knows it is easier to build from side to side—." Before he had got as far as this his circle was broken, the hostess being the first to disappear.

— Another, and perhaps a more genial phase of our subject, is that which comes home to most of us—to many to whom lions, tigers, and that class are known only from reading, or in menageries. We speak of the animals that are about our homes. Migratory birds return year after year to the same spot—to their home. Many Londoners, or transplanted countrymen, who look for the first swallow, will recollect those that used to come to the corner of Bennett and Arlington Streets, and built in the corners of some blank windows. We watched them for years, and we there saw that of which we had often read—their fashion of walling up or entombing alive any pertinacious intruder into the nest. It was very early in the morning, when no one was about. There was a great crying, and we saw a sparrow doing all in his power to enter the nest to which the swallows had just returned; he seemed the stronger and obtained admission. The beaten swallow clung to the edge of the entrance with his feet, spread his wings to prevent egress, called for assistance, which was speedily at hand, when all seeming to understand the case came ready for work, and in a few minutes the intruder was securely built into a living tomb. We have known a robin build year after year in a shed used as a knife house: a fly-catcher in the bend of a branch that was trained along the top of a low dining-room window.

Those who are fond of shooting, or of watching the habits of our field birds, can tell us of the strong home feeling of partridges; how they cling to the field in which they were bred; how it is their feeding ground; and how certainly they may be found there morning and evening, so long as even a headland remains unploughed. There is the marvellous instinct of the pigeon, which has puzzled all to account for. Taken in a close box from Hertfordshire to Antwerp, and released on its arrival, it returns in so short period of time, as not only to necessitate the greatest possible speed, but to preclude any possibility of doubt in the bird's mind as to the route to be followed. We ourselves, when boys, had two young white pigeons given to us. They could scarcely feed, and were reared in a rabbit-hutch. *They were never at liberty.* When some months old they were put in a bag, which was placed in a dog-cart, and they were taken thirty-one miles into the country; after dark they were placed in a pigeon-house. One of them was back in London before eleven the next morning, the other the following day.

Take the way of wild fowl steering through the air for thousands of miles. Air and water, trackless both, yet both





affording highways for our feathered friends. Many a time are they harbingers of joy. The weary mariner, long before he sees the land, is told of his approach to it by the bird that settles in the rigging of his vessel.

And what shall we say for the robin—the cheery autumn songster. There is no copse or wood so lonely, that you are not immediately accosted by a robin. We say accosted, because he is not content to warble his song unseen, but he challenges notice. He turns the leaves over at your feet; he eats his meal, and then flying to a handy sprig or bough, he lustily sings his merry carol. And the luscious song of the nightingale, the morning and evening hymn of praise, coming when the earth is grateful for her re-clothing with her beautiful mantle; and the bold thrush trolling forth his grand notes; the soft warbling of the hedge sparrow; and the familiar “Little bit of bread and no cheese” of the yellowhammer; the beautiful goldfinches and bullfinches; the saucy magpie; the screaming jay; the familiar jackdaw; the sapient and mischievous raven, with many others, all associated with some period or other of our lives.

Certain places are renowned not only for the number of the song birds that frequent them, but also for the quality of their song. When Peter Pindar tells his humorous tale of Sir Joseph Banks being taken by the police officers for one of the burglars they were in search of, because he was what they called hanging about a lonely lane; and of the same officer, who being told to apologise said, “I beg your pardon, Sir Joseph, and will never judge a man by his looks again,” he was only describing a common occurrence. Holland House Lane, at Kensington, was for many years the most renowned spot in the neighbourhood of the metropolis for hearing nightingales, and we have seen it full of people at night. They are mostly amiable and kind companions who, like Gilbert White, can mark the arrival of every bird; who make nature a book in which they read, and whose record of the periodical changes are their almanacks.

Still greater enthusiasts, and who pursue their hobby under difficulties that would deter many, are the working men of London. The weavers of Spitalfields have long been famous for their love of animated nature. Pigeons, rabbits, dogs, song-birds, are all kept by them. In the palmy days of their trade they were owners of all the best of these different breeds. Now the love remains, but few have the means of gratifying it to the extent they did formerly. Nevertheless, by the side of the loom or in the window there always hangs a bird. When it challenges to sing the man leaves off work, and listens motionless while the song lasts. Let his poverty

be ever so great, while the bird sings it disappears, and in the words of the French song, he forgets

“Les fatigues de la Vieille  
Les soucis de lendemain.”

The ballad of the young knight and his Goshawk has been verified over and over again among these weavers.

These are, however, the delights and companions of the real country, not of the suburban residence of the professional man, whose over-worked brain requires relaxation; and who gets home after a seven hour's argument as to whether the man described as Clark without an e could by any means be Clark with an e, and who has been for the prosecution; the point involved being only the murder of a wife and two children, the judges give him the benefit of the doubt, and, being of course superior to the stupid jury who called it all a legal quibble and tom-foolery, and found the man “Guilty,” they order him to be discharged. How refreshing after the dusty court and stale arguments, to look at the common sense poultry and see them enjoy their lives. The surgeon, the physician, the merchant, the tradesman, the artisan owe much of their relaxation to the study of this phase of natural history. We have known a physician in large practice who has spent the night by the side of a hen hatching her eggs; and for the purpose of elucidating a knotty point by comparative anatomy, he has passed through the long hours, constantly using the stethoscope.

The love of these pursuits is the unbending of the bow: it is the natural relaxation, and affords not only an amusement, but an inducement to out-door pursuits. Another charm is, that it can be indulged in by parents and children together.

We have often thought the different breeds of fowls were types of the people of the country after which they are named. The Game Cock represents the manly carriage and the pluck of the independent Englishman, while the Dorking is a fair sample of the well-to-do middle class tradesman, the agriculturist, and the workman. The La Fleche is the old “preux chevalier” of France, the Crève-cœur is the middle class, the “Epicier,” while the Houdan is the representative of the “Robert Macaire” school. The Brahma represents our transatlantic cousins, full of good quality, but of doubtful origin. The Spaniard is handsome, bold, and vain, becoming numerous, and taking temporary importance by fits and starts. The Coehins are good types of those from whom they have taken their names,—quiet, money-making, clever, satisfied birds. The Polands are handsome and useful, but not sufficiently numerous to become an important breed. The Malay looks



like those who are ready in the use of the steel, and careless of consequences.

All have their admirers. Poets use them constantly in the way of simile. They are, however, not only hobbies; they have their useful points. They provide delicate meals for invalids, luxuries for those in health. They eke out scanty

incomes. They afford a harmless and pleasing excitement in the way of competition.

Most of our readers keep them. When the cock wakes you on the blessed Christmas morn, may he call you to a merry and happy Christmas, and may he find you striving for peace upon earth, and showing good will towards men.

J. B.

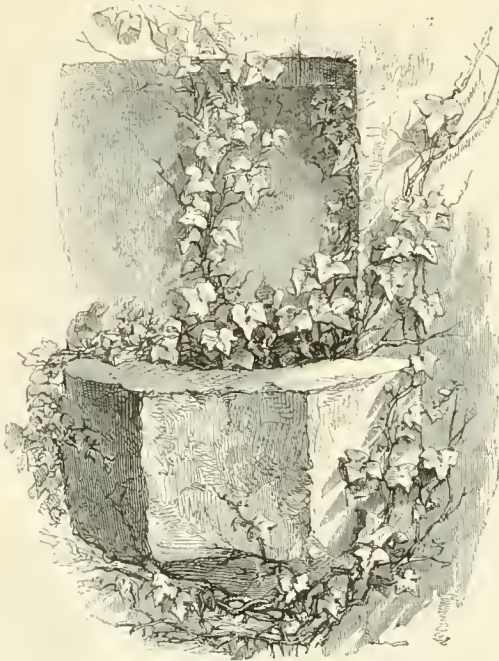


## THE IVY AND THE BELL.

A LEGEND OF CLONALLEN TOWER.

N days when Alfred ruled the land,  
As ancient legends tell,  
The Ivy was a gardener's lad,  
And loved a lady well;  
And the Bell that hangs in the turret high  
Was the lady pure as snow,  
The only daughter of an earl,  
A thousand years ago.

That lady fair, so bright and rare,  
Had suitors many a one,  
Both knights and earls, and knaves and churls;  
But she loved the gardener's son.  
They pledged their faith, in life or death,  
In happiness or woe,  
And seal'd the promise with a ring,  
A thousand years ago.



The grim earl read his magic book,  
And lo! before his sight,  
The deeds they did, the love they hid,  
Were clear as morning light.  
He swore an oath to slay them both,—  
The maid for looking low,  
The gardener's lad for looking high,—  
A thousand years ago.

By magic might he changed the lad  
Into an Ivy flower,  
And the lady bright to the booming Bell  
That swings in the donjon-tower.  
"Be this," quoth he, "the doom they dree,  
Who guiled a father so!"  
And the grim earl burned his magic books,  
A thousand years ago.

But every time the Bell was rung  
The Ivy spread and grew,  
"Climb to me! climb!" said every chime,  
"O, Ivy! ever true!"  
And the Ivy clomb an inch a day,  
As never did Ivy grow,  
And reached the Bell and cover'd it o'er,  
A thousand years ago.

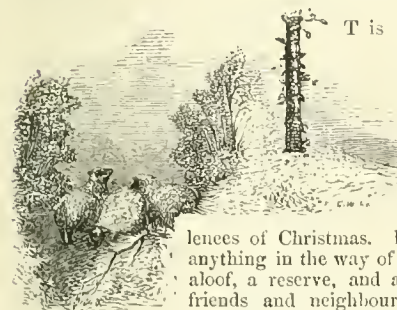
A mortal hand ne'er rang the Bell,  
But up in its turret high  
It peal'd sweet tunes, like Norland runes,  
To the breeze that wander'd by;  
And every year at Christmas Eve,  
As winds begin to blow,  
You may hear it ring—as oft it rang  
A thousand years ago.

Sometimes merry, and sometimes sad,  
But always sweet and clear,  
And all who listen dream of Love,  
And the hearts they hold most dear.  
For Love's the same, and ever the same,  
Though ages ebb and flow;—  
O Love, be happier than thou wert  
A thousand years ago!

C. MACKAY.



## A GARDENER'S GOSSIPING REMINISCENCES OF CHRISTMAS.



It is a sad heart that never rejoices. More than sad must the heart be that does not feel a joyous bettering influence amid the social charities and benevolences of Christmas. If there has been anything in the way of a tiff, a standing aloof, a reserve, and a coldness among friends and neighbours, who are each keeping loftily apart, until they notice the first advances in kindly feeling, what better opportunity for burying in deserved oblivion everything connected with the unpleasantness of the past, and thinking only of the delightfulness of the present, than meeting together on the birthday of *Him*, whose advent, whilst *Time* shall endure, will ever be associated with all that is best calculated to promote "Peace on earth and good will to man."

Except amongst the most ascetic religionists, who look upon the mortifying of the body as one of the best means for securing spiritual merit, this great festival, amid all its solemn associations, has ever been attended with the symbols of outward rejoicing. Feasting and gladness, if kept in their right place, are some of the best ways for expressing our thankfulness. The speaking of kind words, the doing of kind deeds, the thankfully partaking of the good things provided, the assisting of others less favourably circumstanced than ourselves, have ever been considered some of the best practical proofs we could give of a heartfelt gratitude. Hence the great interest with which Christmas is regarded; hence the preparations for its festivities; hence the reciprocal invitations of friends and neighbours; and hence the zest with which members of the same family, though scattered far apart during the rest of the year, contemplate meeting again around the same table, and to express their mutual love and sympathy.

Amid these stirring times, when so many young men, and young women too, must go from the home of their fathers, to find and to keep for themselves a sphere of action and of

honourable labour, there are now fewer, and there will still be fewer, of these happy family reunions. In such circumstances, the recollection of past scenes will often do much to nerve to manly resolution and energetic efforts, amid the longings, the wants, and the felt loneliness of the present. But for such recollections and associations, my first Christmas from home would have been sad and dreary.

A short time before, I had gone as one of the under gardeners to a place, where some half a dozen of us lived in a bothy or barrack, formed out of the back sheds to a range of forcing houses. This bothy had little more in the way of fitting up, than so many beds against the south wall, a table along part of the north wall, between two windows, that admitted, and especially in winter, only a dim light from the width of a four-feet pathway, the other side of the pathway being bounded by a wall supporting a bank of evergreens, higher than the roof of the living rooms; and between the fireplace and the first bed was room for a small table for eatables, and some four-footed stools to place round it. Fortunately there was a doorway in each end of this room, opening up into other sheds, with stock holes and their general accompaniments, amongst which were some rough cupboards, in which we could keep any private stores in the way of eatables, the bulk of our meals being supplied from a stock common to all. I say the door at each end was a fortunate thing; not so much for any of those cunning devices which it might suit some of our young friends to practice, but simply because a good draught of air could thus pass through the room in summer without let or hindrance by us, for the windows did not look as if they had been opened for a generation. In fact, in those days, though vastly more particular than is general now in giving fresh air to plants, I and my comrades thought little—it would be truer to say nothing at all—of the importance of fresh air for ourselves. Between the foot of the beds and the table against the front wall was room enough for a passage, and a trunk or two at the end of each bed, and that was pretty well as much property room as any of us required.

The place altogether would have stood a good chance for being condemned by the easiest-going Board of Health of the present day, but it was a paradise for comfort when compared with other places appropriated to young gardeners in Scotland and England, some of which I had then seen, and others I afterwards became acquainted with; and some few of them, I have reason to believe, now remain in their original hideousness, soon, I hope, to be enrolled amongst the curiosities of the past. From that shed-room men of great activity and intelligence had been scattered over dif-



ferent parts of the home country, and some there were who have left the marks of their influence on other parts of the world. If inclined to be studious, the very companionship of so many acted as an incentive to industry and application, as the different bent of each individual mind, brought within that room much of the requisites for forming a mutual instruction society; requisites which in some cases were turned to profitable account.

Being mostly young and healthy, the roughness of our living, and such lodgings as I have described, did nothing SEEMINGLY to impair the buoyancy of our youthful vigour, or to prevent us, especially in winter, getting robust, fat, and ruddy; and, yet, now I am convinced of nothing more firmly than this, that many of the ailments, decrepitudes, and pains and penalties from rheumatics, and other evils, suffered by many gardeners as they get up in years, are owing to the seeds of these ailments and diseases having been sown broadcast in their constitutions, from living, and especially from sleeping in such and much, very much, worse lodging bothies. The existence of such unsuitable places now, I believe, is owing more to the ignorance than the apathy of employers. It is a noble characteristic of our times, that ladies and gentlemen generally consider such *little* matters worthy of their earnest attention. Young gardeners should make the most of their greater comforts. If some must yet contend with unsuitable lodgings, I would earnestly advise them to counteract, as far as possible, the injurious results for the present and the future, by extra attention to general and personal cleanliness, and to a free circulation of fresh air.

In this room I spent my first Christmas from home, and mostly alone. Some of my comrades were within visiting distances of their relatives, and others had received invitations to go to the Hall in the after parts of the day; and it was considerably arranged, that, as I knew no one particularly in the neighbourhood, it would be best every way if I attended the necessary duties of the place. This was all very well so long as there was plenty to do in covering up frames and pits, clearing out and setting furnaces a-going in several ranges of houses, keeping the mouth and nose protected all the time with a handkerchief from the dust and the sulphur fumes with which the coals were much loaded, &c.; but when I got into the room some time after it was dark, and sat down at the fireside waiting for the kettle to boil, the small tallow dip only sending a mere misty, ghostly light into the farther end of the great gaunt gallery of a place, I did begin to feel an eeriness and a sort of all-overishness creeping over me; and more especially as the wind rising began to sough among the evergreens, whistle in at the doors, and moan in the dark sheds, whilst the Scottish nightingale (the owl) perched on or close to the chimney, kept up its dismal *hoot-hoots*; altogether conjuring up nearly-forgotten tales of the spectre-world.

An interesting field of inquiry would be, under what circumstances a belief in the ghostly and the supernatural is best promoted in, and best eradicated from the mind. The newspapers and serials of the day often show us how much there is of a lingering semi-belief in such spectre-visitants even now; and after all it must be confessed, that as our knowledge is yet very imperfect of our material bodies, we know little or nothing of our own spiritual existence, and, if possible, less of the great spirit-world. My own opinion, the result of experience and observation, is, that the most ignorant are the least timid and superstitious in such matters; that it requires a certain amount of intelligence to bring us under the dread of ghosts or other unearthly visitants; and a good deal more of intelligence and experience to enable us calmly to regard all such *unked* matters as merely the result of a deceived imagination, or the prickings of an uneasy conscience. I can recollect when, as a boy, I could go anywhere in the darkest night as cheerfully and as free from anything like fear as I could have done at mid-day. But I also recollect that, when years older, and having surreptitiously obtained and read in secret places, which I dared not have done before father and mother, tales of ghosts, and wizards, and witches, I actually dreaded to go out of doors in a dark night by myself; thus receiving a terrible punishment for the secret indulgence in curiosity. I had felt such paralyzing dread far behind me before I sat thus *ery* in the bothy; and in addition to increased experience and intelli-

gence, perhaps one of the most effectual means of cure for the malady was the finding that a young rascal of an archer was trying to riddle my poor heart with his arrows, and giving me plainly to understand that, if I would get ease from my pain, it must be from the sympathy of another heart that could be reached only by much longer walks after dark than merely making a tryst at the garden-gate. But with all this increase of courage, there were still certain places, where dark deeds had been committed, that I used to pass on the run at night; and if that running roused up a recumbent sheep or cow, the sound thus made pretty well caused my bristling hair to lift off my bonnet. I mention all this clearly, first, to account for the feelings that came over me on that lonely Christmas; and, secondly, to solicit from those more advanced in life, and who have forgotten to be troubled with any such fantasies, not their badinage, however playful, but their sympathy and kindness for laddie youths placed beside them in similar circumstances.

This eeriness, increased, if possible, by the gnawings of mice and the rasping cutting of rats to get at the simple edibles, the quiet leading them to conclude they could do as they liked, was ere long associated with thoughts of home and friends at home; what each of these so dear to me would be doing and saying then; whether I was of importance enough to be missed; whether some one would think of me fondly, and some other one would be vexed I could not participate personally in his joy; until I began to feel a fullness at the heart, and a pearly messenger came tumbling down my cheek which I would not have let another see almost for a world. But this would never do; I determined to look matters fairly in the face; I dared unscrupulously to look at myself, to turn myself, as it were, inside out, wants, deficiencies, shortcomings, and all; and so absorbed was I in the work, that the kettle unnoticed sang, and hissed, and spouted itself dry. But from that long examination I rose, all eeriness gone, took our lantern, examined every hole and corner, went to every house, tried every gate, got too happy to think of boiling kettles, crunched a piece of bread, and washed down with Adam's wine mixed with something more cheering, and spent the evening in reading the best of books and pieces from our favourite authors, and writing to friends; and was engaged in this latter pleasant work, when one of my comrades returned in the short hours, gave me a good blowing-up for *wasting* the candle, and ordered me off to bed. From that night I have never known *eeriness*, because I have never met at night with worse than flesh and blood; and though living in lonely places I have never felt solitary and alone, because in books I could hold friendly converse with the greatest and best of our race. Pity the gardener who lives a good way from neighbours, if he has no taste for reading. There is just a pity and a beware on the other side. Our converse with books must not deaden our sympathies with those around us, or make our hearts old. Ah! there is a vast fund of happiness to be derived from keeping the heart young, even if our bodies grow aged.

The expression above—"writing to friends"—may need a little explanation. There was no penny postage in those olden times. At the period referred to, I was fond of letter writing, and it did me good, so far that it enabled me to write quickly, and often more clearly, on a subject than I could speak about it. But then my letters to friends were not sent singly through the post-office as now, but in parcels by coach or carrier. One person generally received and distributed. I knew I was acting against the law, but then I somewhat jesuitically argued I had no hand in making the law; and the law never thought of me or my interests as a letter writer, because it just rendered frequent communications an impossibility. It pressed hard enough upon me when I was forced to have letters by post. I recollect when in another place, with 12s. per week, and find everything, lodgings, &c., that in one week I had four letters, which cost respectively 10d., 12½d., 14½d., and 16½d. I was very glad to receive them, but the price, in my circumstances, did diminish the pleasure. The price of letters then was my excuse for cheating the post-office; now I give it my cheerful support. If there is a doubt about the weight, even, I would put on another stamp rather than give them the trouble to weigh or charge extra to the receiver. I consider that Rowland Hill was one of the greatest benefactors to the intelligent,





1 W Lond. Bridge opened, 1831  
 2 Th Mehemet Ali died, 1849  
 3 F Moon's last quarter  
 4 S Sun rises 4h. 29m.  
 5 S 10th SUN. AFT. TRINITY  
 6 M Prince Alfred born, 1844  
 7 W Sun sets 7h. 37m.  
 8 W Canning died, 1827  
 9 Th Sweaborg bombarded, 1855  
 10 F New moon  
 11 S Dog days end  
 12 S 11th SUN. AFT. TRINITY  
 13 M Battle of Blenheim, 1704  
 14 Th Lord Clyde died, 1803  
 15 W Gas used in London, 1807  
 16 Th Marshal Ney shot, 1815

17 F Battle of Smolensk, 1812  
 18 S Moon's first quarter  
 19 S 12th SUN. AFT. TRINITY  
 20 M Battle of Saragossa, 1710  
 21 Th Blackcock shooting begins  
 22 W Bat. Bosworth Field, 1485  
 23 Th Hong Kong taken, 1839  
 24 F St. Bartholomew's Day  
 25 S Sun rises 5h. 5m.  
 26 S 13th SUN. AFT. TRINITY  
 27 M Sun sets 6h. 57m. [Full m.  
 28 Th Divorce Bill passed, 1857  
 29 W Gen. Sir C. Napier d. 1858  
 30 Th Louis XI. died, 1483  
 31 F John Bunyan died, 1688

striving, working classes. I believe that the penny postage is most closely associated with all moral improvement. Use it freely, my young friends, when you leave home. Temptations to walk in the "downward road" will be found weak, just in proportion as the home influences of purity and love are strong, and preserved as evergreens in our memory. There will be little danger of going wrong so long as an unbroken, outspoken, confidential correspondence, is maintained between child and parent, and between brother and sister. The felt sympathy of those he loves, and its frequent expression, will make a young man

"Strong in all he dares to do  
 For the right and for the true."

Favourite authors alluded to might have well led me to speak of the advantages young people possess now from a cheap instructive serial literature. Mawe's Calendar and Loudon's Encyclopedia were the standard works on gardening. The Gardeners' Magazine was the only professional periodical; and that, so far as I recollect, was 2s. 6d. or 3s. per number. In a cheap form, there was little between the mostly worse than trash sold by hawkers, and the more substantial fare provided by the Religious Tract Society. Young people now can form little idea of the zest and relish with which I perused the first numbers of Chambers' Edinburgh Journal,—the grand pioneer of a cheap, pure, instructive, general, literature for the people. A good deal was done in those days by lending and borrowing books, and we were so far saved from what is now a common danger—in a literary sense—the danger of actually starving in the midst of plenty; and because of the plenty, as from the plenty to read, there is less time for thought and consideration. I and my comrades also knew something of what was going on in the world, from joining in taking in a weekly newspaper. The paper which cost sixpence was neither half so large nor half so good as now can be had for a penny. I pass such matters, however, to mention a few other recollections of the old bothy.

In addition to those who slept there, more gardeners and labourers met there for breakfast and dinner; and though there was no lack of roughish animal spirits, I never heard an expression approaching indelicacy. I never saw cards, dice, or any sort of gambling on the premises. A racy old woman came every morning to smooth the beds, make breakfast, and, as to clearing up, gave the place a lick and a promise. As to the fire, that had never been out for thirty years, so the old chroniclers of the place stated, as coal was found in the neighbourhood. One of us took the cooking and general supervision week about; and it was the custom to get our supper as soon as possible after finishing the day's work. Before supper time no place could be more of a Babel: there

would be whistling, singing, shouting, and even dancing; and violins, flutes, clarionets, fifes,—all at work, and often each practising a different tune or piece of music. But this all dropped after supper, and no one then attempted to interfere with the necessary quiet so essential for reading, studying, &c. Those who wished to continue their musical performances just walked themselves off outside, and all this seemed to be done without any particular law or regulation on the subject. The time for going to bed was from ten to eleven, and if any one attempted to keep the candle burning after that time he got an unmistakable hint, by an old shoe coming in too close proximity to the candlestick, and leaving the place in darkness. Of course such beneficial regulations were departed from when we had gardening or other visitors, and more especially when a few friends or neighbours came on invitation. Then we all did our best to honour our guests in a humble way; and in comparing notes, harmless repartee, strokes of wit and humour, animated discussion, song, sentiment, and recitation, we did enjoy "the feast of reason and the flow of soul."

Ah! but these pleasant mementos of the days of Auld Lang Syne too truly—

"Remind me of departed joys—  
 Departed never to return;"

for some of the choicest spirits that were there—first in frolic, first in efforts for self-improvement, and first in large-hearted generosity—I shall meet no more in the course of life's journey.

As far as I recollect I spent the next Christmas, especially in the evening, with the under-servants at the mansion. Much of the high order maintained in the establishment was greatly owing to keeping everybody, as well as everything, in its proper place. The proprietors I scarcely ever saw, but I felt that they wished their dependants and servants to rejoice with them. I have a vivid recollection of the feasting, the music, and dancing at harvest-home. I seem to hear the songs and sentiments—freely vented on New Year's Day, when all employed on the estate dined together; and again, on Christmas Eve, or Christmas evening, the gardeners were invited to the hall. But for the mass and the priest, I have often thought that such mindful kindness was well portrayed in the old poem:

"On Christmas Eve the bells were rung;  
 On Christmas Eve the mass was sung.  
 This only night in all the year  
 Saw the stoled priest the chalice rear;  
 The damsel donned her kirtle sheen—  
 The hall was dressed with holly green.  
 Forth to the woods did merry men go,  
 To gather in the mistletoe.  
 Then opened wide the baron's hall,  
 To vassal, tenant, serf, and all."



If the damsels did busk themselves out fu' braw, there was also extra scrubbing, and brushing, and decking among the garden lads, to appear to the best advantage. My reminiscences of the evening, with one exception, chiefly concentrate in the reply of the old coachman at the head of the table, when a very dandified footman proposed a game of cards. "Aye, aye," said he; "time enough, lad, when we get short of better matter." The passing all round the table of little wheeled waggonettes, filled with horns of ale and glasses of punch, that each might help himself or herself as was judged proper, there being no compulsion; and, amid the lulls between song, toast, and sentiment, a trial of strength in badinage between myself and my right-hand neighbour, a bright-eyed lass from the kitchen.

There was a sort of law that the garden men were to have nothing to say to the young women of the house; but, in a quiet way, there was a good deal of gossip sometimes out of doors in an evening; and such innocent badinage did good to us of the bothy monastery, by softening our manners, and sharpening our wits. I have no doubt the upper servants knew of this, and would not see it, and I think they had good reasons. They knew perfectly well that not one of us would go to the hall without being invited; I believe that was the only time I had been in the house. They knew also that for more than a quarter of a century such friendly intercourse had never resulted in anything unpleasant. I must, however, add, for the benefit of young girls who might *think earnestly* about a young gardener, that for the same twenty-five years or more, according to the old women at the garden, among the many men who had lived there, only one returned to marry his old sweetheart.

There was that night just one trifling exception to the full measure of enjoyment, and that I will mention. Among the garden men was one older than the rest, and then settled in the neighbourhood, who, in addition to a good knowledge of music, could sing most beautifully. As usual, he obliged us several times in the hall that evening; but also, as usual, after supper in the housekeeper's room, he was sent for to amuse and please the party there, and then returned to us. Some of the least intelligent envied him for the preference shown; others pitied him. He told me himself how much he felt degraded in his own self-respect by being asked to go into higher society *merely* to amuse and please; but then he added, "I am not in a position to refuse. I sang to them, 'A man's a man for a' that,' but the words seemed as they would hang in my throat." It would have been better every way if the good folks in the parlour had stepped into the hall to hear the music. Working men, as a rule, would neither be gratified nor elevated if desired to dine even with a lord, but a lord would do something to elevate them, and nothing to lower himself, by going among them on festival occasions; and even taking the head of the table. In little matters of this sort, when a mistake is made, it is generally the result not of want of kindness, but merely the want of consideration.

Since then I have passed a good many Christmases, and spent them in various ways, and mostly happily, because, without any stolid stoicism, I had learned to be so far independent of external circumstances. As an under-gardener, I have been soaked with sleet and rain in turning over sea-kale beds, to get a nice dish, when sea-kale was forced by fermenting material out of doors. I have been nearly blinded when shovelling and sweeping snow, to get a dish of spinach; and lightening snow, and uncovering frames, to get asparagus, lettuce and endive. I have ceased to feel my fingers in washing lots of celery with water close at freezing point. I have stood up to the ankles in slush in the gutters of a mansion, to prevent the melting snow getting into the ceilings. I have searched for mistletoe on apple and lime, as if I believed all the old tales connected with Druidical story. I have scratched and torn my hands in collecting the best pieces of holly, heaviest loaded with berries, with as much interest as if I really believed the poor starved-out spirits of the woods could shelter themselves in house and hall until better days should come. And then—well, and then I have thought I was treated something like the ivy, in the old ditty about the Ivy and Holly:

"Holly stood in the halle, fayre to behold;  
Ivy stood, without the dore: She ys full sore a-cold."

and cold and wet I might have been for any, the smallest recollection of my existence from high or low at the hall.

Reasons there may be and are, why, even on such festivals, different departments should be kept separate and distinct as at other times. Reasons there may be and are, why young gardeners, who are to have little or no communication at other times, should not be tantalised with a somewhat free and easy intercourse with the house servants once a year. But there can be no reasons why, in such a season of general rejoicing, and which they help to promote, they should be entirely passed over. With every heart-felt anxiety that my younger brethren should have enough of independence of character to rise far superior even to the seen and felt want of such attentions, I do feel glad that many employers, who for the reasons I have hinted at, do not bring gardeners within the range of their domestic festivities; yet do what is perhaps more valued—give them a dinner or supper by themselves, or order a trifle in money to be given, that they may have something out of the common way for the great festival. Young men of independence of feeling, who would sooner live on bread and water, and potatoes *and point*, than accept anything in the way of a charitable boon, would yet receive gratefully, at this season, any such small mark of attentive kindness as I have alluded to, and feel, in consequence, more encouraged to a thorough prosecution of their duties.

Finally, as I believe that happiness, to be worthy of the name, must be bound up with the happiness of others: so do I believe, other things being equal, that the greatest possible happiness, is that which is identified with the happiness of the greatest possible number. In the obtaining and the diffusing of such happiness, all classes may successfully work as in a fertile field, from the noble peer in his palace, to the humble labourer in his cottage. Good words, kind actions, true sympathy, thankful hearts, are mostly within the reach of all, who, having the will, will find the way; and these will never lose their double power—power to bless the possessor and the imparted; power to benefit the receiver. If those exalted in rank and rich in wealth, with all their attendant anxieties and cares, are to be envied at all, it is chiefly on account of the greater ability possessed for carrying bright sunshine into many a gloomy home, and thus realising,

"A brother to relieve, how exquisite the bliss,"

and that

"The heart benevolent and kind  
The most resembles God."

when engaged in lessening human ills, and in not merely wishing, but *making*, for many, a *joyous Christmas and a happy New Year*.

R. F.

## CHARLIE'S CROWN.

### CHAP. I.

"The blackbird there, when showers are gone,  
Still pipes at eve his benison;  
And on the frosty vernal morn,  
The valley's cheerful sounds are borne.  
The ash puts on and drops its leaves,  
When the dishevel'd autumn grieves:  
But no rude change again shall come,  
To reach them in their peaceful home."—WILLIAMS.

**F**AR away from the manufacturing town near which I lived, in the quietest corner of a quiet country churchyard, where daisies and primroses spring up unsoiled from the green turf, and the grey old church stands a sober witness of the faith of our forefathers, we made "our graves."

The noise of the toil and traffic of the world cannot reach the spot; the sounds of sin and strife come in such faint echoes, that they do not mar the deep serenity; and the churchyard has about it an air of such calm repose, that the voice instinctively takes a softer tone, and the footfall a more gentle pressure, as you pass through the little wicket gate that divides "God's acre" from man's.

The boughs of a feathering larch spread themselves protectingly around, and wild flowers peep in between the little





railings that divide "our graves" from those surrounding us. A pathway runs through the churchyard, but it is not much frequented; the labourer may pass through to his daily toil, or the cottager's wife with her weekly marketings, and now and then the innocent gleeful voice of childhood, or the tenderer whispers of maidenhood may be heard, but there is no ruder sound, and of a summer's evening the nightingales sing their sweetest songs there.

I am writing far away from that dear spot, and the simple tale I am going to relate belongs to other days. It may be that my thoughts take a softer tone, from the knowledge that time daily brings me nearer and nearer to the loved ones who are sleeping in that far-off peaceful home.

It was at the close of a soft July day, "long ago," that I entered, as was my wont, the sacred precincts, with a basket of flowers to deck the graves for the approaching Sabbath. I had made a wreath of glorious white lilies, and I was laying it tenderly on the grassy mound, when I was startled by hearing a child's voice of peculiar sweetness at my side. I turned hastily round, and saw a little lad of about six or seven years gazing earnestly at my occupation. It seemed as if he had dropped from the clouds, for there was no one near him, and the large grey eyes that fixed themselves inquiringly on mine, had a searching far-away look that was hardly natural.

"What is it?" said the child softly.

"It is a wreath," I answered.

"Yes, I know it is a crown, but it is all one. What is it?"

"Oh," I said, guessing his meaning, "it is a lily."

The little lad shook his head, and then coming nearer he almost whispered, "It is not love, for that's a rose. Do you know granny is a rose, and you are like one. A rose is love, you know, but what is that?"

The little face was peering at me through the railings, and the dark silky hair fell from beneath a well worn cap, and I thought I had never before, even in beautiful childhood, seen so strangely beautiful a face.

"Do tell me," he pleaded, "what it is, for there must be one in my crown. It isn't truth, for that's a bluebell, and do you know I never tell a story, because I want lots of bluebells in my crown."

What was there in the sweet childish face that struck my heart with a pitiful feeling, and yet attracted me with such deep fascination? It seemed as if a spirit-voice spoke from those lips, parted in their anxious waiting for my answer; a child and not a child. I took a lily from the basket and gave it to the little fellow, saying, "It is purity."

"What is that?" asked the child, caressing the pure white flower. "You see I must know, because I must be like it."

"It means always speaking gently," I replied, "and never saying naughty words."

"Is it swearing?" he asked in a whisper; "oh, it frightens me." Then the large wistful eyes once more sought mine, and in a frightened tone the child said, "Will all the lilies drop from father's crown? Poor father."

I was getting sorely puzzled about my little companion, when I heard a well-known voice calling from the cottage corner close by, "Now, Charlie dear, Miss Mary will be tired of all your chatter."

"That's granny!" cried the child joyfully; "that's granny." Then he looked lovingly at the lily, and holding it to his face he said, "Come, and you shall see granny."

I did not need to ask who "granny" was: the voice told me the little lad's history so far.

In a sheltered nook of a wide common, a mile from the manufacturing town I have spoken of, there was a cluster of whitewashed cottages, built upon what I believe is called by the owners a "key holding;" a very small acknowledgment being paid to the lord of the manor for sufficient land on which to build a cottage, and to form a dear old-fashioned garden, where flowers, fruit, and vegetables contend with one another for precedence. In the prettiest of these cottages lived Charles and Mary Ingram, who from my earliest childhood I had reckoned as dear friends. Many a cup of tea have I drank by their peaceful fireside; many a simple song have I sung with the children of the cottage, whose joys and griefs had ever been shared with me.

And "Charlie" was Mrs. Ingram's grandchild, of whom I had often heard, though the parents had married and settled at some distance from their native place, and had only just returned to occupy a cottage, newly built on a part of the garden of my old friend.

They had not chosen a happy time for their return, for the trade of Milton had suffered a grievous check, and poverty of the direst kind lurked like a wolf round the doors of the inhabitants.

The new cottage had been begun before the disastrous strike took place, that, coming as it did when there was a glut of ribbon in the market, helped to bring about misery and starvation, such as I trust never to witness again.

But the house had been built, the "big loom" purchased with the accumulated savings of many years, and John Ingram had returned to take his part in the great battle of life.

And Charlie? I had often heard from Mrs. Ingram of



the exceeding oddness of this little child ; how he perplexed them, and yet bound all their hearts to his in the strongest chords of love by his winning endearing ways.

When I heard my old friend's voice, and saw Charlie's glad look, a mingled feeling of pity and joy came over me, for I knew that the parents and grandparents, though loving each other tenderly, were separated far apart, in that John Ingram and his wife were not Christians. They were not what is called great sinners ; they were honest, sober, and industrious, but for all that there was a something that made you, when in their company, feel that there was no hidden joy about their daily life ; no laying up of the beautiful treasure, over which moth, and rust, and thieves have no power. They toiled from week's end to week's end ; the children were kept clean and tidy ; they were caressed when good and beaten when naughty, and that was all their life ; and it was in this home that little Charlie had lived and thought.

I had heard some little word of a Sunday school, where the young teacher, to interest her class, had talked to them about flowers, and old Mrs. Ingram had told me how strangely her grandchild was "taken up" with them ; and amongst many other singular notions, how he used to fancy he was a flower himself, so that oftentimes she was led to believe that the little laddie was not right in his head.

All these things made me feel a deep interest in the child : so, closing the iron gate, I told him I would go with him to his grandmother.

Before he left he turned once more to the grave, and pointing to the lily wreath he asked, "Was she a lily?" My eyes filled with tears as I replied, "Yes, can you read the writing, Charlie ; it says, 'Blessed are the pure in heart, for they shall see God.'"

"I am glad," said the child ; "when my crown is big enough I am to see God too."

There was never any lack of talk between Mrs. Ingram and myself, and Charlie walked quietly by our side, holding his grandmother's hand, and every now and then looking deep into the lily bell, with which he appeared to be on terms of whispering intimacy.

I did not like to talk of himself before the child ; besides, there were graver matters to be discussed, not only the falling off of the ribbon trade, but also the consequent depression of all other trades, old Mr. Ingram finding no sale for his coal, he being what in Warwickshire phrase is called a coal boggler.

There was little work for the loom, and still less pay, and my heart felt faint when listening to the forebodings of the faithful gentle spirit that was opening out to me its inner workings.

"Of course you know, Miss Mary, we have savings—something put by in the old stocking you tease me about—bless your dear heart ; but we have helped John a good deal with his house, and the children must be fed and clothed decently ; and Charlie he's a getting a big boy, and his clothes can't be made out of nothing now, and he has a good appetite ; for he grows well, and I would not grudge the child his victuals."

"Granny," said the same dreamlike voice that had at first so struck me, "when I am ready, I am to go and live with God."

Mrs. Ingram put her hand softly on the lad's head, and, looking at me, said, "There, I told you, miss, he ain't like other children ;" and added, in a whisper, "Poor boy ; he isn't right, I'm feared."

So we passed into the dear whitewashed cottage, and I began to laugh and play with Charlie, finding out very soon that in his love of fun he was like other children ; while every now and then there was a word showing me what strange thoughts were at work within the little brain.

Then the mother came out to welcome me, and I had to go all over the new house, upstairs and down, to admire all "John's capital contrivances," for he was a tidy man, and "uncommonly useful about a house ;" and then I had to admire the garden, which was parted off from that of the old people by some wooden rails. After duly looking at everything, Sarah gathered a few pinks, and offered them to me, when Charlie, who had kept close to my side, gave a little shudder, and said, "No, no ; don't touch them ; they swear." "Swear?" I asked, forgetting for a moment the child's peculiar notions. "What do you mean?" "Hush," he replied, in a whisper ; "they hear father."

I saw the mother colour, and John turn away shyly, but they did not look angry, only ashamed. "Poor little fellow," said the mother, colouring yet more deeply, "he is not right."

## CHAP. II.

"Oh, poverty is a weary thing,  
"Tis full of grief and pain ;  
It boweth down the heart of man,  
As with an iron chain :  
And maketh e'en the little child  
With heavy sighs complain."—ANON.

AND the summer days went speeding onwards, and with them passed away all hope of a revival taking place in the trade. Scheme after scheme was tried to force back the tide that had flowed down other channels. Ladies turned themselves into ribbon dealers, and the masters grumbled ; then they bought of the masters, and the shopkeepers grumbled ; then they took to wearing ribbons in all sorts of fantastic and impossible ways, using up hundreds of yards in making a dress, and the milliners grinned and the masters grinned, for they knew full well that the light graceful fabric was perfectly innocent of an English loom. And then the ladies all at once turned political economists, and found out that there were more things in buying and selling than their philosophy dreamed of ; so they took to collecting funds, and gathered together food, and clothes, and coals from every quarter, giving them away from a large empty house, called by the poor people "Joseph's barn."

At first only the idle or least modest came, but day by day the number increased, and many a well-remembered friend appeared, with shame-faced looks and voice broken by sobs, telling the same sad, pitiful tale of misery and want. And then came nearly the sorest trial of all : "Joseph's barn" was, as it were, helping to ruin the small traders ; all the shops were empty save, indeed, the pawnbrokers' ; one by one the old cherished bits of furniture were missed from their familiar places ; the family Bibles followed, the wedding-rings, and then—starvation.

Oh, reader ! have you ever seen a once-well-to-do, happy home reduced to the very verge of starvation ? have you ever seen a strong man, too proud to beg, so weak for want of food, that the unbidden tears *will* come, in spite of every effort to restrain them ? have you heard the low wail of children crying for bread when there is none to give ?—these sights and sounds were now of hourly recurrence in the once prosperous town of Milton, and we had to deal with them as best we could.

The little district school went on, and amongst its most regular attendants was little Charlie Ingram.

Three times a week the children had a poor dinner given them—all who really needed it : not very nice—alas ! even that pleasure was debarrd those who strove to minister to this pressing need. The food, even for little children, could not be made enticing, lest those who were not really hungry should take it.

And little Charlie ? Poor child, he was not right, you know ; and often in a quiet corner, I found him sharing his poor dinner—sometimes only a bit of bread and treacle—with a child more hungry than himself. One day I found him sitting empty-handed, watching the child of parents, I knew to be nearly starving, devour his little store.

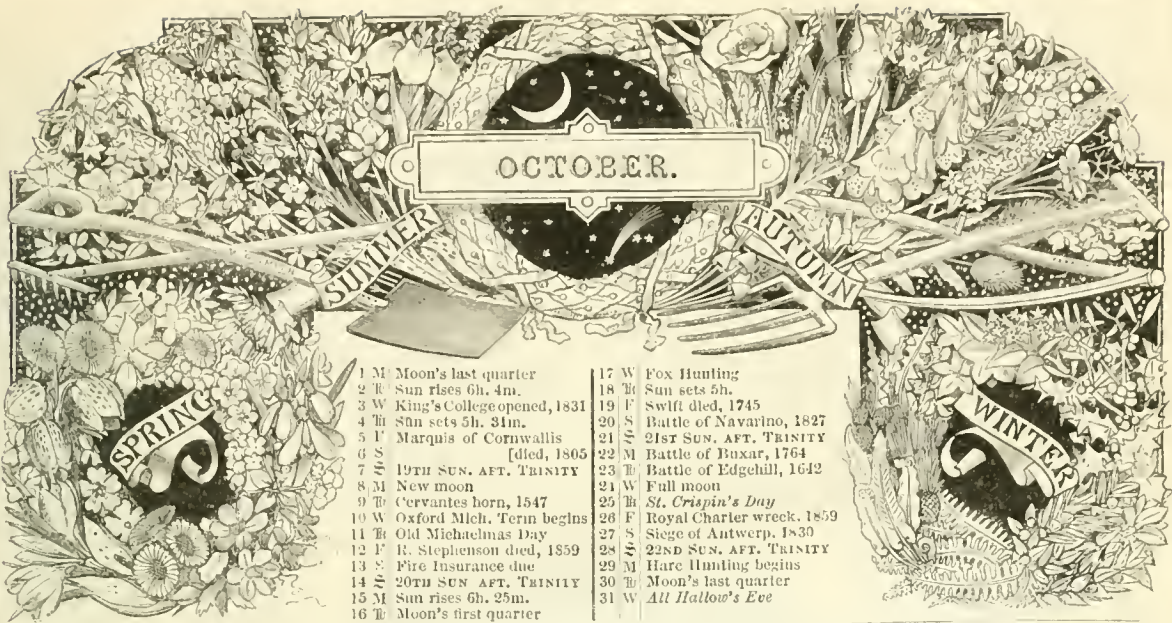
"My child," I said, "you have kept none for yourself?"

The large grey eyes fixed themselves on mine, he crept close to me, as was his wont, and taking my hand, whispered : "Hush ! I want to be like a rose. I am so tired of waiting for my crown, and I like roses best. Do you think the angels are weaving it now, Miss Mary?"

I answered him as I knew he best liked to be answered : and taking him on my knee, I told him, "surely yes, that the dear Lord of the angels had laid up a beautiful crown for every one—even the smallest child—who loved Him and tried to follow in His blessed footsteps."

"I do love Him," said the boy, earnestly ; "He is like a lily and a rose, and all the beautiful flowers put together ; and when I whisper to them, they tell me about Him, and all his love ; and granny loves Him, and you love Him, and—what will your crown be made of, Miss ?" And then he drew closer, and whispered even more softly : "And do you know, mother says that she will try and have a crown, too,





only the flowers won't grow in our garden; but they grow, oh! so big in granny's garden, so very big." And the child opened his eyes, and all at once I saw the little face turn white, and Charlie had fainted away.

I took the little lad home; and after he had recovered, we left him in bed, and I sat down to talk to his mother.

It was a strange tale that Sarah told me—strange, and yet showing in brightest characters the wondrous Love that is ever at work around us, making even simple flowers His ministers, and the voice of a little child, powerful as a trumpet's call.

Charlie seldom spoke, the mother said, of the poverty and distress he witnessed; but she constantly saw him hiding away his own food to give to neighbours' children more in need than they were, and when she remonstrated, he only crept nearer to her, and in tender loving words, so simple, and yet so full of meaning, entreated her to let him help the angels weave his crown. That very day, after the children were gone to school, the mother had discovered that Charlie had scarcely touched his breakfast, so that it was no wonder he had been ill; "and indeed, Miss," continued Sarah, "one cannot resist his pleading voice; he speaks of the angels as if they were his friends, and he could not bear to vex them. It was only yesterday that his father made use of an oath,—it was but quite a little one, please, Miss," said Sarah, apologetically, "but Charlie ran to him all trembling and crying out: 'Oh! please don't, father, don't: the angels will hear, and all the flowers will fade and die;' and if you'll believe me, John wasn't a bit angry, but he stooped and kissed Charlie, and promised he would never swear again. And, indeed, I do believe the child is helping to save the father and me too;" and the mother's voice fell. I asked Sarah if she could remember what first gave her boy the strange ideas he had?

"It was when we were at Ansty, Miss," answered Sarah; "the clergyman's daughter, seeing the child's love of flowers, used to give him one every Sunday, giving it some name, and telling him to try and grow like it during the week, and this took such hold of his mind, that it seemed as if he must be good. Father laughed at first, and I'm afraid I laughed, but somehow I know the child is right, and that we are wrong;" and the mother's face tinged with shame as she added, "and I've promised Charlie I will never miss church again, but always be there that the angels may hear our voices together, and put honey-suckles in our crown. He calls prayer honey-suckles, and when I asked him why, he said he smelt them such a long way off, but he never seems to have any real reason, Miss; but, poor little fellow, he's not quite right, I fear."

From the child we went on to talk of the husband and of their saddened prospects. John had no work, and there was no prospect of any. Grandfather had helped them continually; but there was no trade now for higglers to speak of, since Joseph's barn supplied coals, and for what coals he sold there was no present payment. There had been some talk of emigration, and John had made up his mind to emigrate, if only it could be managed; for he felt, if he stayed in England, he should only bring ruin on the dear old people as well as on himself; they had a few bits of things still left they could sell to pay their debts, if only a free passage could be procured for them.

We turned the matter over in every way, but there seemed nothing else to be done, and so it came to pass that the life-long parting was looked upon as a settled thing; and old Mrs. Ingram's face grew very pale, for John was her darling child, and little Charlie had become the light of her life: but the steadfast, trusting faith that had been her characteristic through life, did not forsake her now. John felt it would be for his happiness—the privations they were enduring were very great—so she only said, "It is the Lord's will," and then she was content.

To little Charlie the coming parting seemed impossible—he could not realize it; he only shook his head, saying, "I can't leave granny;" and when asked if his mother should go without him, he shook his head again, and answered still, "I can't leave mother." He looked on all the preparations with an untroubled eye, and spoke little; was more than ever occupied in his granny's garden; and was, if possible, more gentle and loving in his ways.

### CHAP. III.

"In all places, then, and in all seasons,  
Flowers expand their light and soul-like wings,  
Teaching us, by most persuasive reasons,  
How akin they are to human things.

"And with child-like, credulous affection,  
We behold their tender buds expand;  
Emblems of our own great Resurrection,  
Emblems of the bright and better land"

LONGFELLOW.

A YEAR had passed away since the calm July evening on which I had first become acquainted with Charlie Ingram; during that time he had often been my companion to the quiet churchyard. We had talked together of the dear ones resting there, and of the bright and beautiful world beyond the grave. It was Charlie's special privilege to bring one flower to add to the wreath. Sometimes it was in reality



only a daisy, or a spray of hawthorn, or a primrose; but to him it was the embodiment of some sweet thought connected with the particular flower.

I had made Charlie a promise that, on the anniversary of our first meeting, he should help me gather the white lilies for the wreaths, and should choose the fairest amongst them for his own flower. When the time came round: it was the second Saturday in July—I am not likely ever to forget the day—Charlie had been with me all the afternoon, his merry voice sounding cheerily as he ran in and out amongst the flower-beds, and was gone home to have his tea and to show his mother his beautiful lily; “it will not hurt it,” said the child tenderly, “for father does not swear now.”

I promised to call at the cottage between seven and eight, that we might have our little walk and talk together. I remember the evening as if it were but yesterday. I can recall every look of the dear old home, with its ivy-covered walls; its porch of roses and honeysuckles, with the little cross above, proclaiming to the passers-by that the house professed to be no common home. I remember the sunlight gleaming through the huge elm, that with many another goodly tree graced what, in courtesy, was called the park. I seem to feel about me the very scent of the lily wreath that was in my hand as I passed through the garden gate on my sacred mission. The air was filled with the soft music of the birds; the honeysuckles that, next to roses, Charlie loved the best, hung in waving wreaths from the ivy and the trees; and all around me and above me spoke of Peace!

I had scarcely reached the common gate when I saw a poor woman running quickly towards me, who called in a voice of horror, “Oh, Miss Mary, come fast; little Charlie is killed!”

I cannot dwell upon this hour. It was too true. There was a runaway horse, a little child, thinking only of guarding a lily which he held tightly in his hand; one blow, and it was over.

I found him where he lay with the pale lily, still unbroken, in his hand; the parents and neighbours standing round, stunned and utterly helpless.

We did what we could, but it seemed of no avail; and then we laid him on his little bed, and sat by watching till the doctor I had sent for came. I was not hopeless, for I fancied there was still life, though the face was white as chiselled marble.

As we watched, to my intense relief, I saw spreading over the child's face a sudden gleam as of sunshine; and with it a smile broke from the lips, of such unearthly beauty as fills me with joy even now to remember; the eyes opened, there was a searching look till they fell on his mother, and then, with a startled happy cry, I heard the little voice I had learned to love so well, say in its whispering tones, “Mother, mother, it is all of roses!”

And then—Peace.

Beneath the sheltering boughs of the larch, nestling close to the side of “our graves,” there is a small mound, and at its head a slab of grey stone, on which there is Charlie Ingram's name, and beneath it is written—

“Yea, speedily was he taken away lest wickedness should alter his understanding, or deceit beguile his soul.”

Yes; we laid the little laddie in his quiet resting-place close to the spot where I had first seen him standing, and on the mound we placed a crown of roses: there was scarce a cottage garden round that did not furnish one.

John Ingram came in as Sarah and I were weaving the crown. “John,” I said, “Charlie would like to have one flower of your gathering.”

With his rough, worn hand he hastily brushed off a tear, and turning away said, “I must be a better man to my other children before I'm fit to lay a rose on Charlie's grave.”

So Charlie's mission had done its heavenly work—not *done*, for all that is true, and good, and pure is of heaven—eternal.

And still gaunt poverty stalked through the place, and one happy home after another crumbled to ruins beneath its blasting influence; some of the poor drifted off to search for work in other places: some to the over-crowded workhouse, others to far-off lands beyond the sea, and amongst these latter were John Ingram, his wife, and children.

A marked change had fallen on John and Sarah; not shown in words, not easily perceived in deeds, and yet both in words and deeds it was most surely there. I noticed the quick stopping of the hasty word; the intense anxiety for the future passing away into a quiet trustfulness. Small changes they may appear to others, but to me almost as great as is the distance between earth and heaven.

It was the evening before the day on which the emigrants were to leave for Liverpool. Sarah had asked me to go with her to pay a last visit to Charlie's grave.

Just as we entered the churchyard gate I saw a man's figure disappearing in the distance: the step was hurried, whoever it was, and I fancied the retreating figure bore some resemblance to John Ingram; the person was evidently avoiding us.

When we arrived at the grave, we found lying upon it one bright, fresh rose. I looked at Sarah; she understood it in a moment, and turning to me with a tearful, smiling face, she said, “We shall not leave him here, Miss Mary, his angel will follow us.” These were her very words. I remember them distinctly as when spoken. They seemed strange to me, and yet I felt I understood them. I understood them better by-and-bye.

And the sad parting was over, and another Ingram had taken to John's cottage, and the dear old granny had other grandchildren playing about her cottage door, and other great sorrows pressing on her faithful heart that seemed to grow more and yet more faithful, as outward stays were broken, and she was drawn close beneath the wings of sheltering love.

#### CHAP. IV.

“Obedience—It is love;

And where love is, is harmony:

And all we know of angels blest

Is, that they love, and they obey,

And sing away.

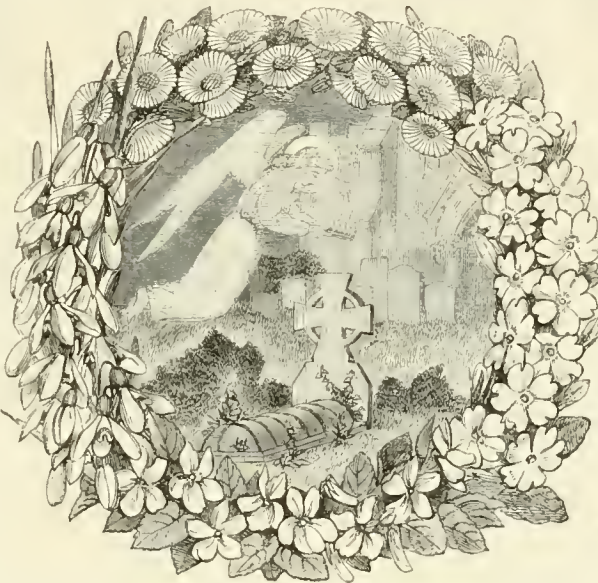
Ever singing, ever loving,

In the mansions of their rest,

Around the throne where God is manifest.”

WILLIAMS.

It was nearly six months since the good ship “Southern Cross” had sailed from Liverpool, and I was anxiously expecting tidings of the emigrants. One letter from Queens-town, written by John in high hope and spirits, was all that we had yet received. When I read it to Granny Ingram—for the dear old lady went by that endearing name far and near—she said, in her quaint way: “What a thing it is to be young, miss; why, it sets my heart all of a tremble only to think of the water, with neither top nor bottom to it, as one may say, a-rolling about all higgledy-piggledy, here, there, and everywhere. I went in a barge up the canal but once, and that was enough for me. Do you mind how little Charlie







clapped his hands as the water came in from the lock, and cried out, 'Higher and higher—oh, granny, we are going up to Heaven!' Bless the dear child, his heart was always a-going there." And so from the emigrants our talk went wandering, as was its way, much as the water does, here, there, and everywhere.

The Queenstown letter gave us a pleasant foretaste of the still better letter we were expecting; it served to make us on terms of acquaintance with the ship, and with the water. "Being on the water" was being on the water to the good folks of Milton; and whether it were the Channel, the broad Atlantic, or Moreton Bay, did not so much signify.

At last the long-expected letter came. I do not know why, but I held it in my hand many minutes before I opened it. I turned it round; I read the post-mark "Brisbane," and the words "Thank God!" escaped my lips, for I felt in some sort responsible for the safety of these my friends. When at last I opened the letter, there fell out two sheets of an account-book, much soiled and blotted. "That's from Sarah," I thought; for I had given her a little book, and she had promised to write down every now and then her impressions of the sea, for Sarah was a good scholar, a much better one than her husband. The letter was from John. I give it in its own sad, simple words—words that made my heart die within me, and yet in the midst of my anguish comforted me. The letter was as follows:—

"Honoured Miss—The rest will tell you of our voyage, and of the safe arrival of the 'Southern Cross' at Brisbane; I have no heart to write of anything. I have lost my wife. Oh, Miss Mary, what shall I do? my dear wife and the child are both taken from me. We did very well till baby caught the measles; and my wife nursed him night and day till he died, just as we were entering Moreton Bay, and I thought we were safe; and then my wife, who had been feeling sadly for many days, took worse, and in two days she was gone. The captain put us ashore at a little island, and the doctor came with me, and we made her a grave and buried her beneath the only tree on the island, just in sight of shore. All she said when she was going was, "Don't fret, John; I am going home, to Charlie's home;" and I think she is safe there, Miss Mary, for she was a changed woman since Charlie died, and set me such a good light as I'm not like to forget in this world—no, never; and all I hope is, that God will be good to me, and help me to follow her and little Charlie."

And that was all. Other letters there were from other emigrants, all full of life, and hope, and happiness; but in these few lines I read the utter destruction of that home, to build up which John Ingram had left his native land.

From John's letter I turned with streaming eyes to the poor soiled manuscript, written in the hand of her who laid in her lonely grave by that far-off sea. It was evidently the beginning of a journal such as I had begged her to keep. Why so little was written, or why it ended so abruptly, I never knew. Why it was written at all, and when written, why it found its way to my hands, seemed but as threads of the same woof of love that had sheltered me beneath its folds all my life, giving me in the midst of sharpest sorrow a glimpse of thankful joy. The manuscript ran thus:—

"On board the 'Southern Cross.'"

"I am at sea. The latitude and longitude I cannot tell; but my heart counts the distance from 'home' by troubled days of hidden yearning and nights of watchfulness. It is not that I am, as many of my companions are, troubled by the water; but I am filled by an overwhelming sense of the presence of God; by a vague feeling that I cannot conquer or understand, that the swift passage of the vessel over the waters is hurrying me on to eternity. This feeling follows me day and night. Thank God, of his deep love, it does not frighten me; but it gives me a strange yearning over my little ones! it adds a deeper tenderness to my love for my husband."

"In the beautiful days when the sunshine is gleaming over the white-capped waves, and the fresh breeze bears the vessel merrily along, and I hear the glad voices of happy children playing around me on the deck, I feel 'He is coming.' When I lie awake in the night, and hear the storm rattling in canvas and mast, I clasp my baby to my heart and feel 'He is come.' I know not how I am so altered, but ever since my dear child went to Paradise, I have felt a quiet trust and confidence in my heart, that raving wind and roaring wave cannot touch or rob me of; and I can lie still, watching and listening for the Approach, that seems so near and yet so lingering."

On the evening of the day upon which I received John Ingram's letter—a day spent in tears of sympathy with my poor friends—I went to visit Charlie's grave. For the first time since he died, I took no flowers. This new sharp grief, added to the blighting influence of the misery and starvation around me, seemed to have thrown a shade of sadness over even the dear flowers. I wanted comfort deeper than they could give.

I sat down on the little mound, scarcely thinking, scarcely dreaming. I remember spelling over and over again the blessed promise that the pure in heart should see God. I remember a thankful sense of Charlie's freedom from temptation, and sin, and then—



I seemed to be in a flood of light and glory; there were no thiugs of definite shape about me, only the echo of soft delicious sounds, with, as it were, the memory of the breath of flowers. My whole being seemed filled with the sense of satisfied joy and perfect peace.

Entering on this wondrous abode, I saw an angel shape, which, as I gazed, assumed the look that once or twice I had seen on the face of her I was mourning. Presently I heard a cry of such exceeding joy, as never reaches earth, and I saw—yes, I could not be mistaken in that sweet innocent look—Charlie clasped to his mother's breast, and through all the happy space I heard a joyous murmur of "Charlie's Crown! Charlie's Crown!"

FILIX FEMINA.

### DOMESTICATED DIP-CHICKENS.



SOMEWHAT remarkable circumstance it is, that birds or animals, which by nature are the most secluded and wild in their habits, become especially tame and even docile when long kept under constraint by man; this was especially illustrated by the circumstances I am about to detail. Many years back a person called upon me, and introduced himself by saying "he had heard I was very fond of birds, and that he wanted to sell me two dip-chickens that he and a companion of his had caught, during the preceding night, whilst fishing." A few inquiries put me in possession of the fact that they had been

caught in a trammel-net by these men whilst poaching for fish in enclosed grounds.

At the time I felt certain they would not live long, as they would not even attempt to eat anything that was offered to them, though I watched them narrowly for some time, and unseen. I mentioned, however, the name of a person I knew had a small pond in a walled garden, and the man called on him, demanding a sovereign for the two dip-chicks, as he had previously asked me, on the ground they were unusual and so great a curiosity. They were declined, and then, prior to leaving, the man who caught them pressed earnestly for a "bidding," and one of five shillings resulted, but was in a very rude manner declined.

Two days afterwards I called to see if they had been purchased, and thus found out the facts detailed. Singularly enough, whilst we were walking in the garden, the man again called to say, "Please to tell the master he shall have them birds at his own price," for it seems he had expended most of the intermediate time in trying to sell them without getting a single bidding. Strange to say, these birds looked quite as hearty and well as when just caught, though absolutely fasted for forty-eight hours. They were bought. I pinioned them at once, and they were then put on the water, and dived immediately. The pool was very small, and a great portion very weedy; but as spring had barely set in, the weeds were scarcely grown, and offered no material obstacle to seeing what might be going on. Still, after waiting about, perhaps, an hour, without getting even a glimpse of either, the wife of my friend began to ridicule the investment as "a stick-in-the-mud affair."

For five or six days nothing was seen of them by any one of the family; but one day afterwards, at early dawn, both were observed busily engaged searching the floating duckweed, purposely placed for them. They dived as soon as they detected themselves seen, but they were now traced to a very small clump of rockwork, on which were a few bushes, that stood in the water to support a figure, and which place it was evident they frequently visited. To be brief, from this time they gradually became less and less timid, until eventually they were absolutely regardless of bystanders. They would even eat small pieces of worms and chopped egg that were thrown to the gold-fish, with which the pond absolutely swarmed, diving after each individual morsel with a dexterity that was beyond realization, save to those who witnessed it, and that often within a couple of feet of persons on the bank.

As time progressed, the bulrushes pretty well filled a considerable portion of their little watery domain, and in some place or other that the owner could never discover, they actually hatched five young ones. These youngsters were as beautiful in appearance as young partridges, which in colour and markings they closely at first resembled, and this brood were generally to be seen dipping and bobbing about more like the floats of fishermen, than anything else I can describe. They grew most rapidly, and soon assumed the splendid satin-like breasts; and I suggested, that unless these young ones were also pinioned, they would soon be missing, as they had become scarcely recognizable from the old ones, and the lot together, with their curious hopping gait if seen on land, was so quaint and extraordinary as to be absolutely ridiculously amusing, though they *always* instantly took the water on the approach of any one. For nearly two days, with a large fishing net, efforts were made to catch them for "pinioning," but only one (an old one already pinioned) was ever taken, though several hundreds of gold and silver fish were destroyed in the attempt. I was not myself present, but even now I think this affair was bunglingly managed, though as the pond was purposely staked to preserve the fish, it might disarrange the free use of the net. The five young ones, within a fortnight or so afterwards, took wing in a group, and never returned. The pair of old ones now proved fidgetty and unsettled, and at the commencement of winter, both were one morning found dead by the side of the frozen water, to the absolute grief, I may truly say, of every one of the family who owned them. In fact, at first they seemed as though deploring the loss of one of the household. The birds were certainly one of the most interesting "hobbies" I can call to recollection. To myself, it was a matter of surprise they exhibited so hardy a constitution and tenacity of life, as was proved by the fasting powers of the old birds when first caught.

Their breeding on so small a water was quite as unforeseen, and the non-discovery of any nest, after the most scrupulous search, was another strange circumstance worthy of attention. That the old birds were caught on the eve of breeding was evident, and perhaps to this alone may be attributed the increase of this singularly amusing pair of birds. I am sure any individual, having suitable convenience for the attempt, would experience a great amount of pleasure, providing they were to be equally successful, with the Dip-Chick as a fanciful "pet;" its rarity, and the singularity of its habits and conformation, rendering it quite an exhibition; nor do I think it at all impossible, with proper care, to have preserved them alive throughout the winter.

EDWARD HEWITT.

Spark Brook, Birmingham.

[We knew a Moor-hen that was similarly domesticated; but, at length, one warm spring it departed, probably on a matrimonial excursion, and never returned.]







## A FEW DAYS' BOTANISING IN CORNWALL.

"If we read Nature's book with a serious eye,  
Not a leaf but some precious thought on it will lie;  
And 'tis good to go forth among scenes such as these,  
Among music and sunshine, and flowers and trees,  
If 'twere only to waken the deep love that springs  
At the sight of all lovely and innocent things."

T is now several years ago that two flower-loving ladies set off from London, with little luggage and by no means heavy purses, to explore certain districts in Cornwall for their botanical treasures. As their adventures were manifold, and their deeds at times non-heroic, we will suppress their names, and call them by the colour of their gowns—Dove, and Mauve.



Their first entrance into Cornwall was to be soled by the sight of familiar faces, and after leaving the railway station at Plymouth, and proceeding in a hired vehicle twenty miles, or so, they reached a little town, lying snugly under its own cliffs at the mouth of a river, and facing a twin town on the other side of the embouchure; the two called East and West Looe. Our tourists felt some dissatisfaction with their driver, as he hurried the horses along a street so narrow, that there seemed no possibility of any other carriage passing, and even a donkey coming up from the coast laden with seaweed, had to go upon the footpath while the Plymouth cab dashed by. They concluded that he was taking them by some ingenious back way to their friend's house, and great was their astonishment when they learned that this was the principal street of East Looe.

A warm welcome awaited them. They found the table spread for a Cornish tea, a meal scarcely equalled by the most elaborate dinner served in any other county. Upon the table stood a good-sized fruit pie, and crystal bowl full of cream of the kind characterised as Devonshire cream, and procured of first-rate quality in Cornwall. Cold fowl and cold pork were there too, and cakes of every description. But not till the tea was poured out did the essentially Cornish dish appear; then, at the critical moment when the steaming tea was placed beside them, a tureen was brought in, and beneath the cover was the piping hot potato cake.

How shall I describe the excellence of that dish? If my

readers like Yorkshire pudding, they have advanced one step towards the power of appreciating potato cake. All kinds of good things are contained in it: eggs, and butter, and currants, and potatoes. It has all the lightness of a Sally Lunn, and all the tastiness of an Ash-Wednesday fritter. French cooks would be delighted with it for a third-course dish, only it is beyond their reach; it can only be made by a Cornish cook, and of Cornish potatoes. Moreover, not every Cornish cook can make it, for our friends, Dove and Mauve, soon learned to associate the appearance of a benevolent old lady with this dish. She was the widow of a sea captain, and a kind of general grandmother of East Looe, and when she came to spend the afternoon, she would lay aside her knitting at four o'clock and go to wash her hands, and then at five o'clock appeared a potato cake.

Dove laid an innocent little trap for Granny Pengarret, by which she found out the truth of this matter. "What a delicious cake this is, granny," she said; and granny replied modestly, "Well, my dear, when the eggs and butter are fresh, and the potatoes fine, and all are rightly mixed, and baked quickly, it isn't any credit to the cook that the cake is good." "Then you make these cakes, granny?" said Dove, proud of having divined the secret; and granny said, "It is a pleasure to me, my dear; I have few ways of being useful now."

"Granny" also lived in the main street of East Looe. She had a narrow strip of a house, three stories high, with a grand view of the river and harbour from the attics, while all the other windows looked into the narrow street. Mauve suggested, when visiting her, that the look-out was rather dull. "Not now, my dear," replied granny. "It used to be a little so, but now they have opened a butcher's shop opposite it is very cheerful. I can see everybody buy their meat for dinner while I sit and knit."

Ere granny finished speaking, a servant girl rushed tumultuously into the room. "It's the pilchards, missis!" she exclaimed; "the boats is in, and they are selling 'em on both quays. Shall 'un go and buy some?"

"Yes, Honor, go and buy sixpennyworth; they shall be marinated, and you shall have some for supper when you do come back from your trip, my dears."

"What is marinading, granny?" asked Dove.

"It is baking the pilchards all night, and then putting bay leaves, and vinegar, and spices. Strangers like them best marinated, but I prefer them as fair maids."

"Are fair maids pilchards too?"

"Yes, my dear, certainly; fair maids are plain salted, and when boiled they are very nice. I seldom take my breakfast



all the year round without a little bit of fair maid. They are very good fresh also, but that is fitter for dinner. Mr. Tregelly has set up a salting-house, and all the boats are his, so we shall have a great pilchard trade here this year."

But the tourists could not stay to feast on potato cakes, and fruit, and cream, and to study the science of preserving pilchards, so they fixed a day for proceeding on their journey, their host selecting Wednesday for the start, because of it being market day. What the Looe market could have to do with their tour was a puzzle to them, but granny solved their difficulty.

"This is how it is, my dears," she said; "Mr. Tregelly wants to save you expense, so he will drive one of you as far as Fowey in his land gig, and the lawyer from Fowey will come to the market, and he will take the other with him. You see land gigs are the lightest and most suitable carriages for these hilly roads, but it is tiresome that they only carry two."

Poor Dove looked so nervous at the thought of a drive with a stranger, that Mauve at once proposed her as Mr. Tregelly's companion, and herself awaited the convenience of the strange lawyer. The summer sun was already low, when Lawyer Black brought his "land gig" to the door. Dove and her host had started two hours before, and Mauve had begun to fear that the lawyer had forgotten her. But no, the gig came to the door, and Mauve took her place by the stranger. Up hill they went and down hill; it was not a monotonous drive, for though the lawyer was not very conversational, the horse made himself very entertaining, always jibbing up hill or dancing down hill. Then, though the darkness cut off all sight of the lovely prospect, the glow-worms lit their lamps in abundance, and made the hedge-rows into illuminated pleasure grounds. Suddenly the driver pulled up short, and Mauve only then noticed that they had reached the bank of a wide river. Mr. Black put his hand to his mouth and shouted, "Horse-boat, a-boy!" repeating the shout several times before handing his companion from the gig. Soon the splash of oars was heard, the horse, carriage, and passengers entered the boat, and the oarsmen began to pull across. As the boat turned they saw the lights of Fowey on the hill side opposite, and as the oars troubled the water phosphorescent light glanced from the spray.

At the house of Mr. Tregelly's brother the tourists were hospitably received, and Mauve was warmly congratulated upon her safe though tardy arrival. Mrs. Tregelly praised her courage in venturing to travel with such a dangerous horse, and promised her a safer excursion on the morrow. She had been kindly planning a row up the river to Lostwithiel, where a great variety of flowers were to be found; she only regretted that, her husband being otherwise engaged, she and her fourteen year old son must be the boatmen.

The chance of getting flowers and a free passage was a temptation not to be resisted, and Dove was charmed with the prospect. Mauve was less delighted, for her nerves, though strong enough regarding strangers and horses, were weak upon water, and she would have been happier with more skilled boatmen.

The morning dawned brightly, and after an early breakfast they wished their kind host good-bye, and proceeded down the garden steps to the boat which was moored there. It was a rising tide, and the harbour looked gay and picturesque in the extreme. Many foreign vessels were there, merchantmen principally from Norway, and the sing-song cry of the sailors, as they performed their regular morning's work, added to the general charm of the scene. Mrs. Tregelly and George rowed bravely, and with the tide in their favour soon left the harbour behind, and lost sight of the blue sea, but still the river was broad and deep. Up ran the tide, and up darted the bonny boat, between the banks so richly wooded, and by mansion and cottage, till the valley widened, and the river narrowed, and they reached Lostwithiel.

"It is not high tide, yet," said Mrs. Tregelly, "so you have plenty of time for botanising, and these salt marshes are good hunting grounds for you. I have business in the town, but I will return in two hours; the half-tide will serve for our return."

And now the search for flowers began in earnest, and the tin case filled rapidly. First, there was the Sea Milkwort, throwing up its small leafy spikes in scores at and beyond

high tide mark (*Glaux maritima*); then the Brookweed (*Samolus valerandi*), with its primrose-shaped white blossoms, egg-shaped leaves, and tall stems. The Thrift was there, of course (*Statice armeria*), and its rose-coloured tufts of blossom made the short turf quite gay. It was too early for the flowers of the Sea Lavender (*Statice limonium*), but its fleshy leaves were there in abundance, as also those of the Sea Aster (*Atripolium*), and the glaucous foliage of the Shrubby Orache (*Atriplex portulacoides*) puzzled them greatly, for there was as yet no indication of the flower spikes. The Sea Club rush (*Scirpus maritimus*), with its bracteated panicle, was nearly in perfection; the many-stalked Spike Rush (*Eleocharis multicaulis*), and the Reflexed Sweet-grass (*Glyceria distans*), with its partially decumbent stems and stiff panicles.

The time passed quickly to the botanists, as they wandered about gathering these plants, and stowing them away in their tin case; and when Mrs. Tregelly returned, she was astonished to find that they had been in no anxiety about her lengthened absence, nor had even eaten the luncheon they had brought with them.

"You must not eat it now," she said, "for the tide is running out fast, and if we wait much longer there will not be water enough for us to get along."

Accordingly they started with all speed, and had much ado to get the boat off, though George took to wading like an experienced boatman. Once fairly off, they got along pretty well for a mile or so, and the strangers hoped they were sure of a speedy return to Fowey, and applied themselves to the neglected sandwiches. But Mrs. Tregelly knew that the muddy bottom was dangerously near, and she was by no means surprised when the boat stuck fast. Their position was not an enviable one. At high tide the river was a quarter of a mile wide at that part, yet at half-tide there was barely water to float a pleasure-boat. The tide being more than half turned now, there was the cheerful prospect of waiting there for six hours, till the coming tide should bring a fresh supply of water. George sprang out of the boat, and succeeded in pushing it a little way, but it soon stuck faster than ever. "It is of no use," he said; "unless you can all get out and push, we must stay amongst this mud for the next tide."

Mrs. Tregelly was already engaged in divesting herself of boots and stockings, and the two strangers followed her example. In a few moments the four were fairly launched in the mud, two hauling the boat and two pushing. By their united efforts they made steady progress, and in half-an-hour they had passed the mud-banks, and the water was becoming inconveniently deep for ladies, albeit their skirts were well looped up. They were very willing to get into the boat again, and were doing so with alacrity, when a "halloo!" from the right bank revealed the unwelcome fact that their tactics had been observed. Mr. Tregelly had been electioneering far and wide, and having tired out one horse, he had hired another, and profited by its powers to make a detour to within three miles of Lostwithiel.

It was pleasant to regain the harbour, and know that their adventure could have no worse result than that of subjecting them to a little good-natured railery from Mr. Tregelly, who did not fail to remind them, on every possible occasion, of the picturesque effect of bootless feet. But first they rowed to some romantic caves, where they had the pleasure of recognising the dark green leaves of the rare Cyclamen, though most of these had died away, and there was a show of coming blossoms.

The many anxieties connected with an impending contested election for the county absorbed all Mr. Tregelly's energies, and had already knocked up his own horses, and those that could be hired in Fowey: so on the morrow he started up the river in a boat, telling his wife he should be back during the day in some vehicle or other—whatever he might be able to hire at the hamlet to which he was bound. Dove and Mauve went out alone on to the cliffs, for Mrs. Tregelly was tired with yesterday's exertions. Upon the cliffs they found the Awl-leaved Spurrey (*Spergula subulata*), the Hairy Sea Pearlwort (*Sagina apetala* and *maritima*), the Sea Plantain (*Plantago maritima*), the Sea Beet (*Beta maritima*), the Sea Sandwort (*Arenaria maritima*), and the far-famed Samphire (*Crithmum maritimum*). A little further

from the town the cliffs assumed a style of gorgeous ornamentation, masses of the Red Valerian (*Valeriana rubra*) hung from the crags, glowing in the broad sunlight—

"Like a banner bathed in slaughter."

This deep colouring was relieved by great quantities of pale golden blossoms adorning the myriad spikes of the Sea Cabbage (*Brassica oleracea*), and the effect of these were heightened by the intense blue of the Borage (*Borago officinalis*), which grew in abundance upon those sea-girt cliffs. Wherever there was a crevice in the rocks, one or other of the Stonecrops had established a home; now it was the white star of the common English species (*Sedum Anglicum*) which, adorned by their rosy stamens, covered all the surface of the plot: and now it was the amber stars of the golden moss (*Sedum acre*); or the plot changed its mossy appearance, and showed whorled branches and tall flower-stalks, upon which were borne dense cymes of the orange blossoms of the rock Stonecrop (*S. rupestre*). The Thrift and Sea Sandwort contributed their quota of gay colouring, and the Fowey cliffs were dressed as for a feast of flowers, the drooping fronds of the Sea Spleenwort (*Asplenium Marinum*), completing the charm of nature's decoration.

On returning from their long ramble, our tourists found their restlessness in some anxiety, owing to her husband not having returned. She stood at the window looking out for him. The dinner waited; and her solicitude increased. Presently the noise of wheels was heard along the narrow street, the neighbouring clock chimed eight, and rang out its quaint tune, just as the nodding plumes of a hearse were seen approaching. It drew near, and the anxious wife was too much fascinated by the horror of its association, to observe who sat on the driving box; and when the sombre vehicle drew up at the door, she fainted away. On recovering, she found her husband by her side, laughing at her fears. He had tried in vain to hire a "land gig," and the tide being low, no other "gig" was available. He was at his wits' end for the means of returning home, when he found that the Fowey hearse had been in attendance at a neighbouring funeral, and was about to return: so he was glad to mount the driving box and secure a lift. He had wholly forgotten the state of his wife's nerves, or he would not have brought the ominous conveyance to his own door.

Canvassing business called him to St. Austell within a few days; and as he then succeeded in hiring a horse, and, being in advance of the age, was accustomed to drive in a four-wheel, Dove and Mauve got a further lift towards their next halting-place, Penzance. They reached St. Austell in time to take the coach for Truro, where they got upon the railroad, and reached Penzance early in the evening.

Their stay at Penzance proved prolific in floral treasures, but poor in adventures, for they had ceased to consider such *contretemps* as getting bogged in Marazion marsh, or overtaken by the tide on St. Michael's Mount, worthy of such a name. The shore was gay with the exquisite rose-coloured bells of the Sea Convolvulus (*C. soldanella*), the sand hills were covered with the fleshy stems and foliage of the Sea Sandwort, whose tiny white flowers made no show at all in comparison with the swollen seed-vessels and heavy foliage. The Sea Horned-Poppy was there, too, with its large golden petals of delicate texture and horn-like pod, the glaucous leaves contrasting charmingly with the amber flowers (*Glaucium luteum*). A low wall separated the coast from the marsh and the road leading to the ancient Jewish settlement, and here that treasure of the fern group, the Lanceolate Spleenwort (*Asplenium lanceolatum*) was growing.

The marsh was still richer in its store of plants, and our botanists had advanced but a short distance, when they were delighted at the sight of a sunny bank, perfectly covered with the rosy blossoms of the Bog Pimpernel (*Anagallis tenella*). The thread-like stems, beset with tiny leaves, were forming a net-work over the sward, and the blossoms were like expanded bells trembling in every breeze. In the wetter ground grew quantities of the viscid Bartsia (*B. viscosa*),

its broad, delicately tinted leaves sticky with balsamic glands, the odour of which nearly resembled the common garden Musk, and the yellow labiate blooms rising from their axils. A little further on and the ground was covered with water, out of which rose little mounds surmounted by low bushes, while at their side grew lordly masses of the Royal Fern (*Osmunda regalis*.) It was in procuring specimens of this King of Ferns, that Mauve found herself as deeply immersed in water as she had been in the Fowey river, but without the advantage of being prepared for the plunge.

Part of the marsh consisted in more or less shallow ponds, and here a large variety of water-plants were flourishing. The common Butter Wort (*Pinguicula vulgaris*) and Forget-me-not (*Myosotis palustris*) were blooming on the margin, and the Floating, Perfoliate, and Shining Pondweeds (*Potamogeton natans*, *perfoliatum*, and *lucens*) grew in abundance in the depths; there were also the Least Water Parsnip (*Sium inundatum*), with its tiny umbels of inconspicuous flowers and pinnate leaves, wedge-shaped above the water and thread-shaped underneath; and the Water Ranunculus (*R. aquatilis*), of similar habit, covering the surface of the pond with its delicate white roses. The Spiked Milfoil (*Myriophyllum spicatum*) was lifting its pink blooms above the water, keeping its feathery leaves carefully below; masses of the Vernal Starwort (*Callitriche verna*) grew in every pond, and the Common Hornwort (*Ceratophyllum demersum*) was found in one. Various kinds of mosses covered the damp earth, and in particular the Common Fontinalis grew in great luxuriance in the ditches, as did also the Narrow-leaved Bog Moss (*Sphagnum acutum*). It was fine calm weather, and the weeds thrown up on the shore were few, and those only of common species, mere branches of Fuci and Laminaria, with an occasional frond of *Chyrocledia* and *Delesseria alata*.



The day at the Land's End was one of great enjoyment; there was no tea saloon there then, and our tourists were the only persons on the wild granite rocks. A seagull was engaged in the maternal duty of incubation on a rock a little out to sea, but so near the coast cliff, that an unpractised hand might have hit her with a stone. She did not seem the least annoyed by the vicinity of Dove and Mauve, though her mate was evidently a little uneasy about it, for the whole time that they stayed there he stood beside her, as if to extend his protection over her. Of course the tourists explored the caverns, and brought away crystals from their glittering walls, and they gazed on the expanse of ocean, and invoked a blessing on the outward-bound vessels. But as far as the botanical collection went, it only increased that day by one plant—the Sea Heron's Bill—which was displaying its petalless blossoms on the arid rocks and roadsides (*Erodium maritimum*).



The drive back to Penzance was cheered by the light of glowworms in the hedge-banks, and by that of the twin Lizard lights to seaward; and the stars came out gloriously, and the clear sky and balmy air suggested a foreign climate rather than that of the British Isles.

A journey in a van on the morrow brought our travellers from Penzance to Helston. It was not the feast of flowers, and so Helston looked very much like any other small country town, and the Angel Inn was fully as comfortable as any other old-fashioned house in an old-fashioned place. By careful inquiry our tourists learned that one grand object of their western excursion—the Loe Pool—lay but three miles from Helston; so they stipulated for a very early breakfast, and with sandwiches in their tin case, they left the town by seven o'clock in the morning.

The ground, as you approach within the last half mile of the inland lake, known as the Loe Pool, bears the signs of frequent floods: very little verdure grows in the lower part of the valley; and the bushes are entangled with straw, dead weeds, and other wreck. Keeping the right side of the valley, the explorers soon came in sight of the lake, a handsome piece of water about three miles long, and one and a-half broad in its widest part. The path led along the banks through pretty meadows and park-like fields; it crossed a brook by means of a rustic bridge, passed before a mansion of some importance, and then traversed a low sandy shore shadowed by birch and other small trees. Here grew the Spring and Thyme-leaved Sandworts (*Arenaria verna* and *serpyllifolia*), the broad and narrow-leaved Mouse-ears (*Cerastium vulgatum* and *viscosum*), the Cathartic Flax (*Linum catharticum*), and that most minute of flowering plants, the Little Flax-seed (*Radiola millegrana*). This tiny plant is less than half an inch in height; its main stem and numerous branches are the thickness of a hair, and you may count thirty cruciform flowers and fifty leaves on one plant.

This sandy ground passed, they entered a hilly wood, and soon came out on high ground, close to the lake but commanding a prospect of the wide sea. The lake at its further end is only separated by a bar of white sand and glittering pebbles from the ocean. As our tourists observed, this lake is much subject to inundations; and when the waters rise to a great extent, they endanger the machinery of several copper and other mines in the neighbourhood. So when the floods have reached a certain height, a deputation waits on the mayor of Helston, and, accompanied either by his worship or a duly authorised lieutenant, proceeds to the bar of sand, where workmen have already arrived, and are only waiting the signal for action. In a short space of time a channel is cut through the bar, and the pent-up waters of the lake rush out into the ocean, creating such a turmoil there that the blue waves of the Atlantic are discoloured as far as the Scilly Islands.

These rocky woods were not only gay with sunshine, but with the glowing umbels of the Portland and Wood Spurge (*Euphorbia Portlandica* and *Amygdaloides*). The exceeding brightness of the sand and pebbles of the bar made it trying to walk upon; and Dove and Mauve wished for parasols, for their mushroom hats were no protection from the glare. The whole of the bar had the appearance of being wet; but this arose from the crystalline transparency of the material of which it was composed. Among the sand grew many plants of the Sea Holly (*Eryngium maritimum*), its spiny glaucous foliage attracting observation and admiration to a much greater extent than its globular umbels of pale blue flowers.

To sit under the shade of a cliff and watch the tide rolling in, while they eat the luncheon they had brought, was a pleasant change and refreshment; and then they pursued their way along the other side of the lake. In a tract of swampy ground they found the delicate blossoms of the Pale Butterwort (*Pinguicula lusitanica*), and near to these the frail stems of the Ivy-leaved Campanula (*C. hederifolia*) were supporting themselves against the culms of grasses, and hanging their delicate bells ready for a joy-peal. On rocky ground, bushes of the Burnet Rose (*Rosa spinosissima*) were clustering; a few cream-coloured blossoms remaining, though the greater part had given place to blackening fruit. The fragrant Sweet-briar, too, was there (*R. rubiginosa*), and the Trailing Dog-rose (*R. arvensis*), in abundance.

About half-way in the length of the lake the waters expand

into an elbow, and there the water was full of weeds—the Narrow-leaved, Grass-leaved, and Fennel-leaved Pond Weeds (*Potamogeton tenellum*, *gramineum*, and *pectinatum*), the Tassel Grass (*Ruppia maritima*), and Floating Club Rush (*Scirpus fluitans*), were the most important.

They passed one cottage on that side the lake, and then entered charming woods; sometimes the path was dark with cloister-like branches, sometimes it allowed a view of the lake and its meadow lands. At length they emerged from the woods and found themselves in the valley again, the lake lost to sight, and their own faces turned Helston-wards.

The fatigue of the day at the Loe Pool necessitated a day's rest, so it was not till the third day of their stay at Helston that they proceeded in a hired carriage to the Lizard Point. The driver contrived that they should reach Kynance Cove at low tide, and they had thus the advantage of finding the sands well exposed.

The white windmill-like towers of the lighthouse were only interesting from their associations, and the village of Landewednack had few claims on notice beyond that of being the most westerly village in England, and having a most picturesque and unapproachable harbour. All the country was very bare, and, excepting for a few enclosures, was covered with budding Cornish heath (*Erica vagans*), whilst the few apologies for hedges were straggling bushes of the Tamarisk, attractive enough at that season from their numerous and elegant spikes of rose-tinted bloom. The Starry-headed Water Plantain (*Alisma damasonium*) was the only plant that tempted them to leave the carriage on their return.

As they re-entered Helston the church bells struck up a triumphant joy-peal. This roused their interest enough to induce them to question the handsome and efficient chambermaid as to the cause of the rejoicing. The woman smiled, passed her arm round one of the bed-posts, and leaning at her ease upon it, replied—"Well, you see, it is because the election is over."

"Then who has won the day?" exclaimed the two friends in one breath, for their experiences at Fowey had roused their interest on the subject. The chambermaid smiled again, and replied loftily—"It can't be known, for some hours yet in Helston who has won—but the ringers know that whichever it is he will pay them, and they are ringing for the victor."

And the bells rang at East Looe, whither Dove and Mauve repaired on the morrow: travelling by coach in the early morning, by rail at midday, and by a hired vehicle, half van half waggon, in the evening. They came in upon their old friend Mrs. Charles Tregelly at a critical moment, and their interruption was by her accounted most opportune.

During their absence, at Fowey, Penzance, and Helston, the pilchard trade had gone on merrily—in no degree interrupted by the excitement of the election. The fish were caught in thousands, packed "heads and tails" in the salting-house, pressed by heavy weights till the oil ran in a stream down the gutter in the centre, and then duly salted and packed in casks for exportation. The thick of this being over, and the election being decided in favour of the popular candidate, the two leading fishwives waited upon Mrs. Tregelly with an humble request, which was no less than that they might have a dance and a supper, and that Mr. and Mrs. Tregelly would preside. While preferring this request, the two fishwives were much troubled by *mauvaise honte*. Under this direful influence they advanced hand-in-hand, and while pleading their cause encircled each other's ample waists with proportionably ample arms, and otherwise acquitted themselves very like children in a village school asking for a holiday. When they departed it was hard to say whether they were more rejoiced at the prospect of the *fête*, or at the termination of the interview. They described their feelings to their waiting friends thus: "We felt as dazed as wheelbarrows."

The fishwives' dance was a rare occasion for lovers of the unique. The supper was of a character that might be called heavy, consisting as it did of huge pieces of boiled beef, and piled dishes of vegetables. Mr. Tregelly hewed away as a carpenter might do in cleaving wood, and was thankful when at last the appetites of the fisherfolk were satisfied. Then the arms had rest, but exertion became the duty of the other limbs: and he had to lead off the country-dance with the most portly matron present. Mrs. Tregelly honoured an old fisherman with her hand, and Dove and Mauve could not be less

"free" than their hostess. They retired after the first dance; and if the company felt the loss of glory in their departure, they got more than a proportionate enjoyment in the increase of freedom.

M. P.

### THE PET MAGPIE.



SOME thirty to thirty-five years back, when assiduously engaged in obtaining specimens for my small private museum, I became acquainted with a gamekeeper, who, up to that time, had actually nailed everything he shot (game excepted) against the end of a large barn, or some similar building, as a proof of his prowess in killing almost everything that came in his way, on the general assumption they were all game destroyers. Among many other equally erroneous impressions was one he firmly entertained and stoutly insisted on, to this effect, that the night-jar, or fern owl, was the worst of all enemies to the partridges, for they eat all their eggs, and he knew they carried them to their young to feed on. He actually adduced, in confirmation of his assertion, that as they had such a large month, the fern owls carried the eggs one at a time away, thus clearing a whole partridge's nest in a single night. He also professed to believe that these harmless birds "sucked the goats in some countries;" and I almost think he was really as superstitious as he appeared, for he would not accredit that the "goat-sucker," as he called it, fed on cockchafer, and consequently was of benefit to mankind. His aversion to the hedgehog was extreme, for there, before us, were numbers of them nailed up and shrivelled, for crimes of which they certainly were as entirely guiltless as was even the individual who had destroyed them: a bittern, three or four of the short-horned owls, many magpies, a variety of hawks, polecats, weasels, stoats, and rats being ranked on the wall in strange incongruity. The house-eats, he stated, he always buried, that they might tell no tales. His cottage was very small, carelessly kept, and stood far away from other habitations. It was here that one of the most amusing incidents occurred. Some one applied to him to get a young magpie for rearing, and though rendered comparatively scarce by the continuous slaughter carried on against them, a nest was procured, and the youngest of his own children having cried heartily to be allowed to keep one, his mother's intercessions with the father, "that the child would soon be tired of it, and then it could be done away with," induced, at length, a reluctant compliance from the father, who "couldn't think what they wanted with such varmint." The young bird, however, grew rapidly and prospered, and quickly became quite a "pet" among the younger children, though the eldest son seemed to have imbibed all the strange prejudices of his father against keeping anything that did not "get money." It had full liberty to come into the cottage whenever it pleased so to do, and if not there, could always be found either in the lane or on the house-top. It was exceedingly familiar, and talked, though but little.

I myself always believed it to be a female bird, but as the family who kept it were of a directly opposite opinion, in deference to those who were with it daily, I will speak of it as a cock bird. Its vocabulary consisted of "Polly—Come—Marg'ret—Don't you bite—Jacob—" and "Where are you?"

He washed himself almost daily in the brook, was in splendid feather, and generally made the most intimate acquaintance with everything connected with the place. Even it and the pointers were capital friends, though he furiously flew round any strange dog so long as it remained, ever after the time a spaniel, in trying to catch him, once pulled his tail out; for henceforward no care could reconcile him to such new comers.

He passed a good deal of his time with the younger children in the cottage, or in fine weather would mount the roof,

chattering wildly, or at times reiterating the few words he had now acquired. At dusk, for a long time, he always roosted in his allotted corner. He fed precisely as did the children, for they gave him portions of all their meals, and up to the commencement of the following year was always closely within call. At length, he was absent at short intervals, particularly in the early part of the day, and it was discovered he had formed an acquaintance in a small plantation about two fields distance, and even began to stay out at night also. This circumstance seemed to raise the ire of the gamekeeper, who threatened "to shoot him if he saw him there again." Having now become the "pet" of both the children and their mother, they strove all they could to prevent these tendencies; and from being constantly driven back, at length both he and a wild hen magpie constructed a nest on a high tree at the bottom of the garden. These birds sat and produced several young ones, and this strange and unnatural union of wild with tame birds proved in the result most whimsical. The cock magpie, so far as he had learned, absolutely "talked" to his mate in an evidently unknown tongue. When the young brood wanted food, his daring and impudence increased intensely. This bird took all the food he supplied to them from the gifts of the household, whilst the hen as invariably sought sustenance for the nestlings in the fields. This plan of getting food continued throughout. "Mag's" talkativeness, that now seemed at its height when connected with his present occupation, was to strangers almost supernatural, particularly when they were perfectly unacquainted with the circumstances just described. If thrown a piece of meat (for he would not now feed from the hand), he would fly up with it to his little family, screaming wild notes interspersed, however, with words as quickly uttered as though calling over a muster-roll. He would repeat, "Come, Jack, Jacob, Polly, Marg'ret," and occasionally, "Don't you bite," but seemed to have entirely forgotten his old saying of "Where are you?"

His rapacity (caused, no doubt, by the daily increasing wants of his young ones) led to his destruction, from the reckless determination he evinced to obtain every edible within reach. The eldest son, a lad of about fifteen years, had either been engaged in net-fishing, or was about to go out for that purpose, and unluckily his dinner had been put on a plate (uncovered) on the table. The boy had left the room for a short time, and on entering again at the back-door was unfortunately just in time to see poor "Jack" fly out at the front with a selected morsel, the greater bulk of his meal being pulled about the table in sad disorder. Maddened by the sight of his dinner-plate, he reached a loaded gun from the house-wall, and before his mother could prevent him he shot the poor bird in his nest, bringing all in one confused heap to the ground. I am told that the lad, with blubbering tears, immediately repented, could eat no dinner, and that he would have given anything he possessed to undo what his passion had suggested. This boy's two little relatives, after many bitter tears, made quite a funeral of their "pet," and buried him at the foot of the tree from which he fell. Even the father himself, on returning, professed great grief at "his being killed in that way;" a doubt of sincerity, however, arose from the circumstance that only the next day he shot the old hen magpie, and secreted it from the prying eyes of those by whom this interesting family had been so closely observed.

EDWARD HEWITT.

Spark Brook, Birmingham.

### A CORNER FOR THE CHILDREN.

#### INTRODUCTION.



Y the side of how many a Christmas fire is a corner left for the children? Why, the fire-side at Christmas-time would be sadly incomplete without the dear children. Old Father Christmas—kindly, jolly old fellow as he is—gives (there can't be a doubt about it) a nod and a smile to the little ones. Nay, I have heard say that he takes them on his knee and trots them up and down, till their young blood laughs with warmth, even in their very little toes.



We all learned to love Christmas when we were children. It was then the love grew up in our hearts, and our after-love of the season when we have grown portly or thin, or bald or grey, is chiefly from the recollection of our childhood's Christmas-days—the days when we first assisted in hanging up the mistletoe branch, or eyed with wonder our bigger brothers and sisters decorating with evergreens the dining-room, or that snug *parlour*; yes, that was the word,—the sauggest room we ever knew,—and there we always lived when there was no company. The room in which we played dominoes, learned to play draughts, or wondered at the intricacies of back-gammon, for we always had some games before that dreadful nursemaid appeared and summoned us to bed, just when we were “so happy.”

I went, a few years since, to a large children's Christmas party. The host had about a dozen of his own (“pretty party at all times for a man to be bothered with,” methinks I hear exclaim Jonathan Musty, Esq., old bachelor, residing at Mouldy Hall); but he (my host) loved to have once a-year at any rate—that once being Christmas time—some forty other children added to his own. And when, after the frolics were over, I bade them good night, he said, “Ah! there is nothing like making children happy; it is the greatest happiness on earth to see children enjoy themselves.”

Greatly do I reverence;—no, that is not the word,—greatly do I love another friend of mine, an old boy of about fifty, who, when a young boy of only forty, was one evening in company with a number of school lads, and was so thoroughly one with them, that at the end of the evening they had all grown so wonderfully confidential that one boy said to him, oblivious of his whiskers, “Oh! you are at Eton, are you not? What form are you in?” How I envy that man, his being able to keep “his young lamb's heart amid the full-grown flocks” as to be himself taken for a young one.

But to the point. I crave “a corner for the children” in this our Christmas number. Will not room be made close to the fire for many a Gertrude, or Lucy, or Netty, or Harry, or Tom. I see, in thought, the elders squaring round, and the ladies contracting their crinolines; and I see the children coming, shouldering their little chairs and squeezing into the corners made for them. There, now, you are all seated, and, better still,—quiet. Cyril by his mother's side, of course. We all know to whom he runs always; there he has put his cheek on her warm silk dress, and is gazing at the fire, while a velvet hand (how light, and smooth, and warm it is) is passing over his face and forehead, and then the fingers of the said hand play for change among the tangles of his hair. But no jealousy, you whiskered individual in the big chair opposite, for in your corner little Lucy has got. We all know her way. Well, you are seated, and the Christmas dinner is eaten, and you in the large chair are whirling the nutcrackers about, using them like a little flail thrashing imaginary corn on your knee, for you have had enough of the walnuts and the wine. Our Christmas number is on the table; the “light of the dwelling” having spied “a corner for the children,” has laid the number open and ready for reading to her children at this very vacant, musing, fire-light hour. She clears her voice. Why does she do that? It is clear as silver at all times. And then she begins to read:

#### THE BANTAM HEN THAT LAID GOLDEN EGGS.

ONE cold morning in spring when the cook opened the back-door—it was the door from the back-kitchen, and led out into the stable-yard. The lock always went hard, grated rustily: “That boy,” meaning Buttons, “never would oil the lock,” said cook; and the door grated very rustily this morning, for there had been a great deal of rain lately. At length the door opened, and cook forgot her anger in her surprise at seeing a little, little bantam hen picking up some crumbs that had been thrown out from the cloth after supper the evening before, for the birds were always remembered in that family. The girl was a kind girl; and when she saw how thin, and cold, and miserable the little bantam looked, and how its feathers were ruffled and broken, she went into the larder to the bread-pan and got some more crumbs, and enticed the little hen to come in; and she came in right to the kitchen

fire (it had just been lighted), and she fed in front of the fire, and, at length, roosted on the back of an old Windsor arm-chair, the one cook did her sewing in. And the girl went about her work; and as the housemaid looked in, she begged her not to disturb Miss Ada's pet, for she meant Miss Ada to have it; and when “that boy” (he was down late, of course) threatened “to wring that banty's head off,” she threatened him with the broom-stick; which threat quieted that “boy,” for his shoulders had ached on a former occasion, and cook always kept her word.

Miss Ada at last came down: a little miss of seven years of age, with a fair face and short nose; her big brother, when home from school, used to add, “and a shorter temper;” but this was only his fun. One thing Ada had, and that was real golden hair, not hair washed yellow with—but I must not tell ladies' secrets. And Ada was called into the kitchen, and cook presented the bantam to her, and she, Ada, was pleased beyond all bounds of staid pleasure, skipping, laughing, jumping, kissing the giver, though she was not at that time of day over-tidy, and calling her “dear old cooky.” And then mamma hearing the noise came in, and she was pleased because Ada was pleased. And then papa was fetched in, who seeing the course events were taking, and fearing the result of expectations raised only to fall, said gravely,—“My dear Ada, this is a very good game bantam; I have seen them at shows; and it belongs, no doubt, to some one who values it highly, and we must, therefore, seek for the owner.” Talk of the effect of a wet blanket on a fire, this speech was a pile of wet blankets to poor Ada, for she was grievously disappointed. As to cook, she grumbled something about “a too bad of master to go disappointing missie like that; but she should have it, for findings was keepings; and she found it, and she gave it to Miss Ada, and master had nothing at all to do with it.” But right and justice prevailed. Everybody in the neighbourhood who kept fowls was sent to: old Mrs. Smith on the Green, Mr. Little, John Tomkins at the Farm, Squire Harcourt, who took all the silver prizes at the great shows; but no owner was to be found.

“They sought him that night, they sought him next day,  
They sought him in vain till a week passed away.”

The real secret never came out as to how the hen came, or where she came from. It was supposed by “Buttons,” who would not, however, give his authority, that it had been stolen by Jem Stiggins, who had lately run away from his work at Birmingham, and had come back to his father's, and that he had kept it in his old rabbit-hutch some days; but being a good flyer, and not liking its quarters, it had on the first opportunity flown away like a sensible little bird as it was. One thing was certain, Jem knew better than to claim it. So justice being satisfied in the matter of the ownership, nobody claiming the hen, it was declared, even by her papa, to be Ada's, or, as she said, “her very own.” The cook declared it would lay *Golden Eggs*; she knew it would. In a few days the little hen, after sundry searchings, and lookings, and “pratlings” about—having, by the way, soon got her plumage in good order, by dusting herself on the sand-bank near the nut-walk—fixed upon a corner of the manger in the stall not used, and having made a nest, or, rather, found a bit of hay all ready, laid an egg, and then set up such a cackling as if there never before had been done such a wonderful thing in all the world. Cook ran to see, and her cap flew off, or, at least, only hung by a single hair-pin; but she ran on in spite of it. She then fetched Miss Ada, and said, “Look, miss, at the beautiful golden egg; didn't I say it would lay *Golden Eggs*.”

The first egg was eaten at tea by Ada; then more eggs were laid, and then the little hen sat; and Ada took corn into the stable every morning, and fresh water and green food—i.e., grass or cabbage or lettuce leaves—slyly peeping at the eggs while the hen was eating. There were nine yellow eggs. “Ah!” said she, “cook was right; they are *Golden Eggs*.”

Time passed on, and when the twenty-first morning came, Ada heard, when she took the corn in, a faint noise or rather noises—several faint “cheep-cheeps” coming from under the hen; and cook took up the bantam gently, who resented the interference greatly, kicking and pecking furiously. There were nine yellow, downy chicks.

"There, Miss Ada look! *Golden Chickens* from *Golden Eggs*; why, their little beaks are as yellow as sovereigns." The hen was soon put into a coop, and the coop into the kitchen, for the weather was cold, and the mother and chickens fed first with chopped egg, then bread crumbs and whole grits. Ada loved to watch the little golden noses peeping from out the hen's breast and wings. The chickens grew and prospered famously; but the little cockerels, alas!—for truth must be told—when they grew hobbledchoys, fought each other, and got bloody noses; but except for these occasional battles all went on well. Ada was very proud of her chickens, and showed them to everybody that called. One day, by chance, a gentleman learned in poultry happened to call, and he was taken to see the chickens; and he declared them to be very good, indeed, and picked out the three best—a cock and two pullets—and advised Ada to send them to the poultry show which would be in the town in a few months. The time came, and after due inquiry, the birds being now grown to their full size, though that was a very small size, it was determined by papa that they should be sent to the show. Cook washed them gently; then put them in some clean straw in a basket, and set them before the fire to dry; and then put them into a small hamper—a round one it was, so as not to spoil the cock's tail. And cook almost blessed them—at least she blessed herself—and declared them to be "beauties." The next day the pony carriage was at the door at one o'clock, and papa mamma, and Ada soon got in and drove—it was rather a long drive, to where the show was held. They found the church bells ringing, and everybody in their best clothes, while crowds were entering a gate leading into a field; at the gate stood two solemn-looking policemen. Ada entered with the rest, and inside the field it was like a fair. A military band was playing, led by a fearfully-excited man, who seemed to threaten all near with his black stick. Ada passed the fat pigs, and declared them to be "ugly things." She passed fat cattle, and said they were "too fat." She came to the flower tent and was pleased enough, but kept pulling her papa's hand towards a tent from which came the sound of crowing—crowing. There must be some cocks there. Most of them said, as all proper cocks since Adam's time, "Cock-a-doodle-do," while some great Cochins and Brahmas seemed to have started a new fashion ("Just like upstarts," said old Mr. Dorking) and said "Cock-a-doodle-don't."

There were such a number of pens in the tent, such queer-looking fowls in some of them, thought Ada; but her eyes all the while wandered about to see her pets, and whether they had plenty of food and water, but she could not see into the uppermost row of pens. She felt a strong pair of arms raise her from the ground—they were her papa's,—and looking straight before her, there were her own dear bantams.

"Well, they have plenty to eat and drink, papa—how nice! but what means that card nailed on the top of the pen?"

Her papa put up his eye-glass—he was rather short-sighted—and exclaimed: "Well, I declare, Ada, you have got first prize; there must be a mistake." But on referring to the catalogue, there was no mistake, for it was printed—"Game Bantams, black-breasted reds.—1st prize, Miss Ada Seymour." And as to the card, why it was as big as one of Ada's school-books. There was no mistake, for the secretary—a grave-looking man who seldom made a mistake—handed Ada a bright *gold sovereign*. "Why, papa, cook's right," cried the delighted Ada; "my hen does lay *Golden Eggs*!" But that was not all: next day came a large letter, very business-like looking, directed "Miss Ada Seymour," in a bold hand. "That's about Ada's bantams," said her papa. "I dare say it was all a mistake; the child's could not be so very good." But papa was wrong; it was indeed about the bantams, but it was to offer three sovereigns for the hen exhibited at the show; and a few days after the clerk at the post-office handed Ada three sovereigns on her signing the order. "Well, cook was right," said the child, looking at the three yellow coins in her hand; "my bantam does indeed lay *Golden Eggs*. But may I give her one for her poor mother, who is ill?" "Certainly, child," said her mamma. And that made Ada all the happier. And so ends my tale of "The Bantam that laid Golden Eggs."

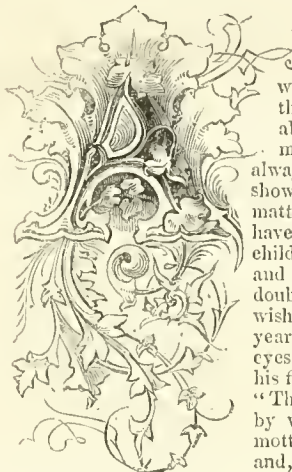
As the lady's voice ceased, Cyril cried out, "Capital!

jolly! but how I should have liked to have thrashed that Buttons." Little Lucy said, "How nice; and what do you think of it, papa?" But papa had kept playing slower and slower with the nut-crackers till they lay extended, very helpless-looking, on his knee, and he was very quiet. "Why, papa, you are asleep," they both cried. "No, no; I heard it all," said he, starting. "I was thinking about Lord Russell's last letter to Mr. Adams." "Papa," said Lucy, "I'll prove it. Now tell me all that the tale was about." But papa declined to be examined, so I fear he was a little asleep.

Now, Lucys and Gertrudes, and Cyrils and Harrys, and all of you, if you have a fancy to keep bantams that will lay golden eggs, and want to know how to manage them, and you do not know how to contrive it, write to the office where this is printed—if you write in large hand between lines, never mind—and the Editors will answer you in print, in next week's Journal—or perhaps I should. And now believe me to remain (I wish I could kiss Lucy) your affectionate old friend,

WILTSHIRE RECTOR.

### THE CHAPLAIN'S CHRISTMAS HOMILY.



GENTLEMAN, among other bequests, left his son a ring, and desired that he would have engraved upon it the word "THINK." He laid also upon him a further command—viz., that he would always wear the ring. The father showed much wisdom in this matter; he wished to do good, to have a salutary influence over his child when he himself was dead and gone, and we can scarcely doubt but that he succeeded in his wish. Thus, was the son in after years tempted to speak rashly, his eyes would fall upon the ring on his finger, he would read the word "Think," and he would remember by whose wish the ring and its motto were placed on his hand; and, perhaps, instead of speaking rashly, "unadvisedly with his lips," he would be silent. Again, was his hand about to be clenched in anger to strike another, the inscription on the ring would, most probably, check the blow. But doubtless the ring had other uses; thus, was the wearer about to commit himself, without due consideration, to a certain line of conduct, the ring would bid him "think" first, or "think" more.

Now, let me give you the word "think" as a motto at this time—this Christmas time—and with Christmas almost the end of another year. Let me endeavour to bind the word "think" upon your memories.

A sober word at the conclusion of this, our "Christmas number," can scarcely be deemed out of place by any one. Christmas brings with it various feelings: to the child, simply joy; to the grown man, thankfulness, and, I hope, cheerfulness too; he is cheerful because he is thankful. But in a certain higher sense—I mean not now in a religious sense—it makes us thoughtful. Not only thoughtful while remembering other Christmas times, perhaps happier, or in calling up before the mind's eye faces not now to be seen around the Christmas hearth, faces

"Which we have loved long since, and lost awhile."

But Christmas also makes us thoughtful without the dash of melancholy which is thrown across such recollections; here is a musing which is not sad, a musing which becomes a man, and which is neither romantic nor foolish.

We grown folks shall have to ourselves some quiet, lonely hour this Christmastide when, good reader, there will come over you

"A feeling of sadness and longing,  
That is not akin to pain,  
And resembles sorrow only,  
As the mist resembles the rain."



Let me try to supply food for thought at such an hour. But I am thinking of those into whose hands this Christmas number will fall—a number which will, perhaps, be more generally and thoroughly read than any other issue of “the Journal” during the whole past year. Masters in their business rooms, clergymen in their studies, will (is it too fond flattery?) read it quite through, and then carry it, with a pleasant smile of gratification on their faces, to their wives and daughters for them to read. I fancy I see elder sisters reading parts of it to “the children.” Happy elder ones, who are thoughtful and good, and who are sharing with their parents the care of bringing up in the way they should go their younger brothers and sisters. Oh! blessed large families; and, by-the-way, how much I dislike to see the word “incumbrance” applied to a wife and children. Did our Creator give Eve to Adam, telling him she was to be an incumbrance? No, He said, “I will make a help meet for thee.” Then, in thinking of those who will read this number, I remember our oldest friends and our firmest friends—the gardeners—for does not “our Journal” bear upon its title-page “for gardening and gardeners?” True, we have outgrown our original proportions; we are no longer the thin Cottage Gardener, but more bulky Journal of Horticulture. I hear, too, of broad-acre squires looking forward to Wednesday’s post, and, after their field sports, loving to read our pages; and I hear of ladies studying “the Journal” week after week; and as to the parsons, why hundreds upon hundreds are among our readers. Still, we look first to our gardening supporters, gentlemen who love their gardens and those who live by old Adam’s trade.

Now a little word both to masters and gardeners—to both of you, if you please. Metaphorically I uncover my head from respect while I address you. There is, first of all, the labour question—man’s skill given for the mutual benefit of employer and employed. Is this question on a satisfactory basis? I fear not always. I would say, let the position of each gardener and his duties be clearly defined upon his entering a new situation; this would ease much after sorrow and many a little annoyance. Then there should be a true and loyal feeling on the side of both *man* and *master*, each to the other. “He is my master, I will stand by him faithfully;” and “He is my gardener, I will support him.” There is a nasty disrespectful feeling now-a-days in many men, young men especially, towards their superiors; a feeling quite opposed to the teachings of that old Book in their bedrooms; a feeling which has come out this last year in all its vileness in many an election riot, and which reduces one indulging it to a mere hireling, taking the bread, but with no feeling of kindness or respect to the one who supplies the bread. This is wholly wrong; this is ruinous to right principle, and, I may add, to happiness also. A man that feels no respect for others is far on the road to losing his own self-respect, while right self-respect (I do not mean self-conceit) will lead to respecting those above you. Duty to self done, duty to others will be done. As saith that great master of all human feelings, Shakespeare:—

“This above all,—to thine own self be true;  
And it must follow, as the night the day,  
Thou canst not then be false to any man.”

I grieve to read even one question about the necessity of “Gardeners’ Unions.” The gardener should be the friend of the gentleman, the gentleman the friend of the gardener; both are in the same boat. Perhaps there is in some masters a want of genuine sympathy with their gardeners’ trials (they are many), and their feelings, which are very keen. This should not be: the interest of the two orders do not clash, rather they are identical; there should, therefore, be a kind feeling on both sides.

Next I would say a word about gardeners’ cottages. I venture to think—pardon me, masters—there needs in many gardens some improvement in this respect. The gardener is a man of education, and with education come higher tastes and more refined feelings; these tastes and feelings should be considered. It is of course well, in the first place, that a gardener’s cottage should be near the garden; this is a good thing for both employers and employed. But such cottages should not be cold thin buildings, run up in a north aspect, under some high wall or higher trees. They should not be cheerless and cold with few comforts. Indeed, gentlemen of

fortune might always make at least their head gardener’s house, as many do, a pretty feature of the place. Let it be well situated; let it be a substantial dwelling, comfortable and convenient, so that it may be felt to be what we all long for, or enjoy—a home. A porch put on this house, a back kitchen added to that, &c., &c., might make many a cottage doubly comfortable, and the good wife proud of her home. Make people comfortable and they will work the better; the light heart and the quick hand go together.

Then if young and unmarried men be also employed, as most probably they will be, let them, if possible, lodge with some tidy couple. The Scotch “bothies,” in which not unfrequently well educated young gardeners live together, shifting for themselves, cannot be defended. The “bothie” system is a bad system. What an inducement there is for young men living in them to go where there is a cheerful fire ready lighted, and where the drop of whiskey-punch will cheer, one drop at first, many drops after a time. I have been in gardeners’ bothies in Scotland, where the contents of the bookshelves and the general aspect of the room were painful contrasts. Let us try to make men comfortable, not let them feel ashamed—as young men well clad and well read do feel ashamed—to be found living in such “pair places.” Comfortable homes or lodgings go far towards making comfortable and contented minds. Now I am well aware that there are hundreds of employers who know and do all this, yet there are others who do not think about it, and so those under them have little comfort because of their forgetfulness.

“But evil is wrought, by want of thought,  
As well as by want of heart.”

Bear, then, a reminding word from one who is becoming almost an old friend (so he is told) to many a reader of the *Journal of Horticulture*.

Next a word to gardeners on a higher subject:

Neglect not public worship. Keeping the Sunday is the key to a man’s character. All is, in most cases, going on well if he be present at church regularly; but if he begins to fail in this duty, if he be but an occasional worshipper, then if he goes at all, goes, or says he goes, to some other church—ah! he has done what is wrong, and does not like to meet the eyes of those who know him, he feels uncomfortable among his neighbours, conscience is at work. Satan, bent on leading him further astray, makes it whisper, “The church is no place for you.” His sin may not be known as yet, but presently it will be. As a clergyman of experience, I would say that among those in the humbler classes so acting, I have never known one but concerning whom at length the sad truth has come out,—immorality, or pilfering, or sly drinking, or some other sin.

A gardener’s cottage, inside and out, what ought it to be like? Let me endeavour to sketch it as it should be and often is. Outside the sun shining on a substantial dwelling, with an air about it that few passing would fail to stop and ask, “Who lives there?” Inside tidy and clean, and by woman’s hand made thoroughly a home. Books—scientific, botanical, horticultural books—bought by the husband in his single days, with money that others spend upon drink or tobacco; the better room this Christmas time decorated with the bright holly berry, and the brighter holly leaf; children with a look of intelligence, and I like people to keep themselves quite up to their station; there is no wrong pride in all this, it is only rightly feeling the place Providence has placed you in. Oh! how I wish every gardener’s cottage could be bright without and bright within. No pinching poverty, but the thrift which half doubles the wages; no discontent against any one, least of all against the employer; but that “peace and good will,” preached on the first Christmas day, felt towards all men. Finally, a merry Christmas to all of you, writers and readers. You, good editors, in Johnsonian Fleet Street, and you brother scribblers, wherever ye dwell, and you readers, young and old, dwelling in mansion or cottage, in rectory or vicarage, or ennobled lodgings, a merry Christmas to you, each and all, and remember the motto on the ring—the word “Think.”

WILTSHIRE RECTOR.

















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